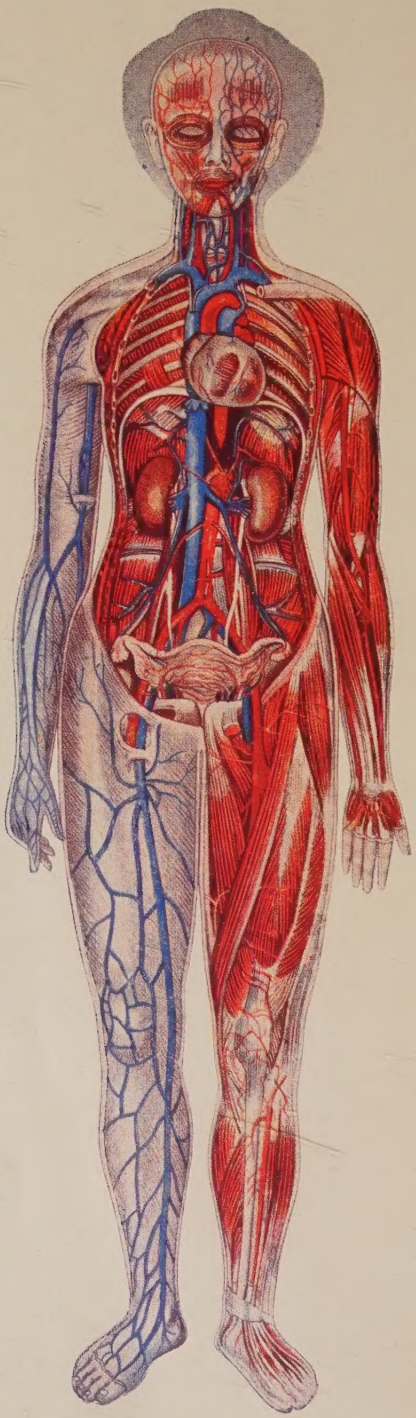
THE HEALTH BOOK

ROYAL S. COPELAND, M.D.



THE BLOOD VESSEL SYSTEM

THE HEALTH BOOK

BY

ROYAL S. COPELAND, M.D.

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PREFACE

IT should be a part of everybody's training to know what to do in the common accidents and medical emergencies. Many a life has been saved through promptly applied, yet simple, treatment given by a layman. Many a life has been lost because fright and lack of knowledge prevented effective action at the critical time.

It is the purpose of this book to tell in simple language how to relieve pain and what to do to prevent or to cure some of the many ailments which are liable to invade every home. I shall hope to explain how to meet the simple accidents, the sudden emergencies of factory, farm, and household, which are sometimes appalling if you don't know what to do.

I shall be glad if I can lessen the terror of the family and promote the comfort of the afflicted. By giving advice as to how to proceed in case of trouble perhaps I may be able to add to human happiness. For many years I have been striving to do this through my work as a medical teacher, as a health commissioner, as a health lecturer, and in my daily newspaper articles on health.

Much of the material in this book has appeared in my writings for the Newspaper Feature Service. It is by the courtesy of this organization that I am permitted to collect these articles and to present them in this more permanent form.

The book contains some of the things I have learned through years of medical practice. They are just the things other doctors have learned, but have not had the inclination to record.

In Part One are included the emergencies you are liable to meet. These are listed alphabetically. In the box at the

beginning of each subject you find what to do in the emergency. Then follows a more or less detailed account of the nature and treatment of the trouble.

Part Two is devoted to the common ailments. It is intended to give you such knowledge of each disease as a layman should have.

Part Three includes a lot of general information which every person, especially every parent, should possess.

At the close of the book is a carefully prepared index which should give you ready access to the material in the pages.

I recommend that you read the book from cover to cover. Then you will know what it contains and, in emergency, will know where to turn for advice. May I suggest in all modesty that scattered through the pages are bits of advice which, if followed, will add years to your life?

My last suggestion is this: Please do not think, because you have the book, that you can give up your doctor. You can't do this. You should have his personal advice. Let him be your guide, counselor, and friend. Perhaps by studying the book you can be helpful to him and in some ways lighten his burdens. But you will need the doctor and should call him when you have the slightest doubt of what your sick ones require.

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PART I
EMERGENCIES

APPENDICITIS

WHAT TO DO IN AN ATTACK

1. Send for the doctor at once.
2. Give a rectal injection of warm, soapy water.
3. Apply large ice-packs to the abdomen.
4. If ice is not at hand, apply a compress of cold water, changing frequently.

THE appendix is located on the right side of the abdomen. It is about half-way between the hip bone and the navel. In this region is usually noted the first symptom of appendicitis. This may be a feeling of discomfort, or it may be actual pain. There is apt to be tenderness on pressure. Very quickly the pain becomes excruciatingly severe. In many instances the pain is not limited to the region of the appendix, but is distributed over the entire abdomen.

Not every stomach-ache, even when the pain is in this location, is necessarily a sign of appendicitis. We suffer from fads, even in disease. Appendicitis is not so fashionable now as it used to be, and its prevalence is not so great as many would have us believe.

Pain alone is not enough to determine the presence of the disease. Neither is tenderness on pressure a dependable sign. But if to these symptoms are added a few others, including rigidity, or hardness, or tenderness of the muscles of the abdominal walls, the condition is probably appendicitis.

Usually the patient is constipated and suffers from loss of appetite. Pretty soon there are nausea and vomiting, as well as abdominal discomfort.

While lying in bed, the victim draws up the right leg to remove pressure from the sore side. Coughing and deep breathing make the pain worse.

The attack may or may not start with a chill, but there

is more or less fever from the beginning. The temperature may run to 103 degrees, or even higher.

If the symptoms lead you to believe that the trouble is appendicitis, you will send for your doctor at once. While waiting for him, the patient should be put to bed and kept absolutely still.

Appendicitis is usually due to weakened resistance. Late hours, excesses in eating and drinking, constipation, exposure, overwork, worry, a run-down condition—one or all of these may cause a lowering of the powers of resistance against disease. The next step may be an infection with some inflammation-producing or pus-producing germ. Just what form the trouble takes will depend on the organ which happens to be attacked. If it is the appendix, we have the beginning of appendicitis.

Ice-packs—large quantities of ice—should be applied to the abdomen. If a supply of ice is not within reach, apply cold-water compresses, using a large towel or a large piece of flannel. Change often enough to keep the compresses cold. Do not give a cathartic or a rectal injection.

When the diagnosis of appendicitis has been confirmed by the doctor, the question of operation will be determined by the progress of the case and the general condition of the patient. If the sufferer grows worse, or if the presence of a tumor indicates pus formation, operation will be required.

Fortunately most cases of appendicitis recover without operation. Even if you have to be taken to the operating room, the chances are very, very favorable for a happy recovery. The condition is not commonly met with after the age of twenty-five.

(See also *Constipation; Indigestion.*)

ASPHYXIA, OR STRANGULATION

(KNOWN ALSO AS SUFFOCATING, SMOTHERING, STIFLING, OR THROTTLING)

WHAT TO DO

1. Send for the doctor.
2. Make sure that there is no foreign substance in the throat and that the nostrils are clear.
3. Pull the tongue forward.
4. Remove tight clothing, especially around the neck.
5. Perform artificial respiration, as for drowning. (See chapter on Drowning, Part I.)
6. If the victim is a child, mouth-to-mouth inflation may be tried. Place a coarse gauze over his mouth and blow air into the lungs. Then expel it by pressure on the chest. Keep this up fifteen or sixteen times a minute.
7. After breathing has been restored, relieve the headache by applying an ice-pack or cold-water compresses to the forehead.

IN drowning, hanging, and exposure to dense smoke we have conditions in which lack of air, or of pure air, produces loss of consciousness. The skin is livid, the veins stand out, the heart action grows weak and weaker. There is gasping for breath, and very soon the heart ends its efforts. The victim dies.

You must never jump at the conclusion that nothing can be done. Even though the pulse cannot be felt or the heart heard, there is always the hope that resuscitation can be accomplished.

Suppose you are called upon to help care for a suffocating person. What are you to do?

Make sure there is no foreign substance in the throat.

Pull the tongue forward and see that the nostrils are clear. Remove tight clothing, especially around the neck.

While you are performing artificial respiration, as in drowning (see chapter on Drowning, Part I), you must keep the victim warm by covering with a blanket. Sometimes rectal injections of warm coffee will produce useful stimulation.

If the patient is a young child, the old-fashioned method of mouth-to-mouth inflation may do good. Place a piece of coarse gauze over the victim's mouth and blow air into the lungs. Then expel it by pressure on the chest. This should be kept up fifteen or sixteen times per minute.

If a body is cut down after a hanging, the application of cold water to the head and neck may stimulate breathing. The same method used in reviving a drowned person should be employed.

Asphyxiation from smoke is quite common in cities where fires are frequent. What the smoke will do depends to a great extent upon the material which is on fire. For instance, burning rags, wet hay, paper, varnish, and lumber make a smoke which is very irritating and difficult to endure. Tar and pitch are less disturbing. When the smoke is mixed with fumes of chemicals it is very damaging to human beings who are caught in it.

At first there are choking, dizziness, sickness at the stomach, and severe headache. Coughing, vomiting, and violent action of the heart are other symptoms. The eyes burn and run water. Then there is loss of consciousness.

Carry the victim to a safe place, loosen the clothing and collar, keep him warm, and, if necessary, use artificial respiration as for drowning. (See chapter on Drowning, Part I.)

Do not try to pour water or a stimulant down the throat of an unconscious person. It may cause choking and suffocation. It may also get into the lungs and cause pneumonia.

After the breathing is restored, relieve the headache by applying an ice-pack or cold-water compresses to the forehead.

The cough and resulting bronchitis, as well as the irritated eyes, will require appropriate treatment for a few days.

In poisoning from illuminating gas, almost the same procedure is demanded as for the treatment of drowning or smoke asphyxiation. If an oxygen tank can be procured, it should be used, if there is any breathing at all. If not, then artificial respiration should be resorted to as in drowning. (See chapter on Drowning, Part I.)

The pulmotor and lung motor are kept by gas companies and hospitals within reach in the cities. The work of resuscitation is most successfully done by them.

(See also *Drowning*.)

ASTHMA

WHAT TO DO IN AN ATTACK

1. Have the sufferer inhale the fumes from burning blotting paper which has been dipped in a solution of saltpeter, or breathe the fumes from an amyl nitrite pearl broken in a handkerchief.
2. A cup of strong hot coffee may ward off the attack.
3. Steam inhalation, hot drinks, and a hot foot-bath may control. (See chapter on Bronchitis and Bronchial Asthma, Part II.)
4. Give plenty of fresh air.

ASTHMA is a peculiar and unexplainable thing. There are two cities sixteen miles apart. A man nearly dies of asthma while he lives in one city and never has it when he is in the other.

Certain odors, possibly the pollen of some plants, violent emotions, and certain foods will bring on attacks.

In medicine we speak of "neuroses." This word is the plural of "neurosis." A neurosis is a disease or abnormal condition of some part of the nervous system. But, unlike most diseases, there is no apparent change in the structure or appearance of the affected part.

In the eye there is a condition where there is blindness without apparent reason. This may be a neurosis.

One may have severe pain in the arm or elsewhere with no observable or discoverable cause. This may be a neurosis.

There may be difficulty in breathing, tightness across the chest, and all the uncomfortable symptoms of asthma, without apparent cause. So asthma may be a neurosis.

Many asthmatic patients, however, have exciting causes which can be found and removed.

For instance, nasal trouble is responsible for many cases.

On each side of the nose there are three bony shelves. These bones are covered with a thick layer of mucous membrane, and each velvety encased shelf is called a "turbinate." Sometimes there may be undue thickening of the mucous membrane, obstruction of the nasal passages, or pressure on the delicate tissues, and, as a result, asthma may develop. With each cold or aggravation of the nasal trouble, asthmatic attacks will be precipitated.

Sneezing, running of the nose, and a stopped-up feeling in it may precede the real attack of asthma.

In other cases there will be found in the nose a polypus or other growth. This must be removed before the asthma can be cured.

The odors of some plants or the emanations from certain animals may bring on an attack. Asthma is like hay fever in this respect and, indeed, in many other ways. The pollen of flowers may carry the irritating substance.

Some cases appear to be brought on by eating particular kinds of food. This is particularly true of asthma in children.

Acute bronchitis, adenoids, and various heart troubles may have asthma as one of the symptoms.

When once this condition has shown itself, it is very apt to be repeated. The attacks increase in frequency and violence. Indeed, they may appear at more or less regular periods during an entire lifetime.

In the treatment of asthma it is necessary to find out exactly what is responsible for the attacks. This is no easy task.

The diet must be studied to find what particular article of food, or what particular sort of a meal, is productive of trouble. A heavy meal at night may not agree with the patient. Study of this factor must go forward with patience until the best method of eating has been found. The stomach and bowels, unless they function correctly, may be the seat of trouble.

Various drugs have been employed to relieve the attacks. Some of these are administered by burning and permitting

the sufferer to breathe the smoke. One remedy used for this purpose is saltpeter. Blotting-paper is dipped in the solution, and this is called "niter-paper." The fumes from burning this may give immediate, but temporary, relief in an attack.

Sometimes a large cup of strong coffee will ward off an attack. It should be taken clear and as hot as possible. If able to do so, the patient should get out of bed after taking the coffee, and try reading something interesting. In forgetting it he may get rid of the asthma.

Narcotic drugs should never be employed unless prescribed by a physician. They are rarely needed in this condition.

The doctor should be permitted to make a thorough examination to see if all the organs are normal. He will be needed, too, to remove the nasal difficulty, if one is found. The patient should avoid dust and all violent exertion, and should have an abundance of fresh air, day and night.

Medical science has demonstrated the use of vaccines made from the pollen of flowers and from certain foodstuffs which have been found to be the underlying causes of the attacks. When once the doctor has determined that the pollen of some flower or some article of food is responsible for asthma, great relief can be obtained from inoculations with the particular preparation.

(See also *Adenoids; Bronchitis and Bronchial Asthma.*)

BITES AND STINGS OF INSECTS

WHAT TO DO

1. If stung by a spider, bee, hornet, centipede, or other insect, first remove the sting from the wound, if possible, using a watch-key, as for blackheads. (See chapter on Blackheads, Part I.)
2. Apply ammonia, vinegar, camphor, lemon-juice, oil, or soda.

INSECTS of air and grass, of vine and tree, are always watchful and ready to attack the unsuspecting. The most common of these pests is the mosquito.

This insect is bad enough anyhow, but, unfortunately, under certain conditions the mosquito may carry malaria or yellow fever. We will not, however, consider him now as a carrier of serious disease, but will regard him merely as one of the hindrances to happiness in summer-time.

Gnats, certain flies, and other winged insects are disagreeable visitors during this season of the year.

All sorts of prescriptions have been given to ward off these insect pests. Tobacco smoke, smudges of various kinds, vile-smelling compounds, pennyroyal, and other odorous materials are used for this purpose. Vaseline, cold-cream, or other grease may be smeared on the skin to protect against the biting of the insects. Carbolized vaseline and tar ointment have been employed for the same purpose.

When the insects have actually bitten the victim, there is considerable itching, burning, and smarting. To give relief from the itching, ammonia may be applied. Carbolized salve or vinegar may help. Camphor and lemon-juice are other remedies.

Besides the insects that bite, there are others that sting.

Spiders, bees, hornets, caterpillars, beetles, centipedes, and scorpions are among such pests.

It will help a lot if the sting can be removed from the wound. Use a watch-key as in blackheads. (See chapter on Blackheads, Part II.) Then ammonia or one of the other remedies may be applied. Salt will help sometimes. It should be rubbed into the stung surface.

Oil and soda are other remedies. A very excellent application is hyposulphite of soda, one teaspoonful to an ounce of water. This may be applied repeatedly and will stop the itching in many cases.

Bed-bugs, fleas, and lice are other unwelcome visitors. Their bites may be taken care of in the same way as mosquito bites or bee stings.

I do not believe in living in constant fear of attack, but it is well to be on guard against the insect pests. To this end, every house should be screened. It is unsanitary and dangerous, too, to permit flies and other insects to attack the human dwellers. There is always the chance of carrying disease in this manner.

Attend to the wounds acquired this way as you would other wounds. In short, then, try to dodge the insect's bite and do not neglect a bite if you are a victim.

BITES OF DOGS AND OTHER ANIMALS

WHAT TO DO

1. Paint the wound with a seven per cent solution of iodine. If deep, swab it out with iodine on a bit of wet absorbent cotton wound around a sharp stick.
2. Wash the wound out with bicarbonate of soda solution, or peroxide, or boiled water.
3. Cover with several layers of sterilized gauze and bandage. In the absence of sterilized water and gauze, use the cleanest water possible and a clean handkerchief.
4. Consult the doctor.
5. If the bite is by a dog or other animal suspected of having rabies, you must first tie a cord or string around the bitten limb above the wound, and twist tight with a stick. This acts as a tourniquet.
6. Then use carbolic acid as a caustic. *In applying the acid you must be very careful not to burn the surrounding flesh,* and to protect fully you may smear vaseline on the surrounding skin. Use a toothpick or very sharply pointed stick. Wrap the point of this with sterilized cotton, dip this in pure carbolic acid, and, holding the stick very straight so that only the point will touch, thrust the point for an instant into the wound.
7. Lose no time in consulting the doctor about the "Pasteur treatment."

IT is not uncommon for man to be bitten by an animal. This experience is of little importance if the tissues are merely squeezed, or if the skin is unbroken. There may be soreness, a black-and-blue condition, and some discomfort, but the symptoms disappear spontaneously.

Geese, roosters, horses, other domestic animals, and rats and mice may attack a member of the human family and

cause painful wounds. If the animal is healthy, the same treatment given any other similar wound of the skin is indicated. It is quite another story if the animal has rabies.

Rabies, as it is known in animals, and hydrophobia, as it is called in man, are one and the same condition. The germ is carried by the saliva and enters the skin through the torn or lacerated surface where the bite is received.

While the dog is the chief carrier, the germ may be found in cattle, cats, horses, sheep, pigs, wolves, and goats. It is apt to be fatal, whether it attacks man or one of the lower animals.

Fortunately, not every person bitten by a rabid dog contracts rabies. Indeed, only about fifteen per cent take it, but every person bitten by a rabid animal should be treated. Every sick dog should be handled with care, because its tongue may carry the dread germs of hydrophobia.

It takes about three weeks for the symptoms to appear. It may require less time than this, or the attack may be delayed for several months.

The primary wound heals promptly and, except at the point of entrance of the poison, has little part in the further and serious symptoms. There may be some local irritation at the seat of the bite, and possibly some pain and discomfort. But the beginning symptoms of the real trouble are the depression and gloom of the victim. He has a feeling of illness, headache, loss of sleep and of appetite, and some fever.

Then comes the stage of excitement. The patient may have attacks of raving and violent outbreaks. This stage lasts two or three days. There are spasms of the throat. On attempting to swallow water the spasms grow greatly worse. This is why the hydrophobia patient fears the sight of water.

Next comes the stage of paralysis. The heart grows weak and the patient may die in a few hours.

If bitten by a dog or other animal suspected of being mad, you should try to stop the flow of blood back into the body from the wound, by tying a string, or anything at hand,

immediately about the part above the wound. If the bite is on a limb, this will be an easy matter. Tighten the string by twisting with a stick stuck under it. Of course, if you have a tourniquet, use it. Then make the wound bleed thoroughly by stretching it open and squeezing it. Dip a sharpened stick, with absorbent cotton wound around the end, into pure carbolic acid and swab out the wound with it, being extremely careful not to burn the surrounding skin. To further protect this, vaseline may be smeared on around the wound.

After this local treatment has been administered, the victim should be taken somewhere to get the Pasteur treatment as soon as possible. Every large city has its Pasteur Institute. The treatment takes twenty-one days. If a Pasteur Institute is not accessible, application should be made to the City or State Health Department for an outfit which will enable the local physician to apply the treatment at home.

It is the solemn duty of the authorities to see that dogs are kept under control. England has demonstrated the possibility of wiping out rabies and hydrophobia by enforcing its dog law.

BLACK EYE

WHAT TO DO

1. Apply cold compresses or ice. Repeat for ten minutes every half-hour until the swelling goes down.
2. Two days later begin massaging with cocoa butter or cold cream.

THERE are certain human afflictions which are the subject of infinite jest. One of these is a black eye.

"How does the other fellow look?" "How did you get it? Running into the door, I suppose! Ha! Ha!"

These are among the familiar greetings of Main Street. I know because I was brought up there and had many a blackened eye.

The tissues of the eyelids and cheek are very soft and tender. They overlie a ridge of hard bone, the edge of the orbit which holds the eyeball. The skin and soft tissues of this region are richly supplied with blood-vessels.

You can see that all the conditions are favorable for trouble. A blow with the fist, running against a door or other hard object, or stooping over and striking the corner of a chair—any one of these accidents will pinch the skin and underlying blood-vessels.

The tissues are caught between the external object and the sharp ridge of bone. The blood-vessel is crushed as it would be with pinchers. It is no wonder the delicate wall is broken, permitting the blood to ooze into the soft tissues surrounding it.

This accident produces the same condition we find in the skin anywhere else following a bruise. There it is a black-and-blue spot. When this happens around the eye it is called a black eye.

Doctors give this a big name—"ecchymosis of the lids."

All this means is that you have a collection of blood in the connective tissue, the soft tissue of the eyelids.

The length of time the discoloration will last depends on the amount of blood escaping from the damaged vessel. Usually it requires from one to two weeks for absorption to take place. The black-and-blue stain may continue for a month.

If you get a blow in the eye, it is well to apply cold water almost continuously for an hour or so. This retards the bleeding and reduces the quantity of blood oozing into the tissues. Diluted witch-hazel may be used instead of plain water. Lead-water and laudanum mixture is a favorite household remedy for black eye.

When all danger of further bleeding has passed, massage is helpful. You can see that this should not be applied at once, because it would break the clot and bring on renewed bleeding. But after a couple of days, it may be begun. Apply a little cocoa butter or cold cream and gently manipulate the discolored part.

For cosmetic reasons, or to spare yourself ridicule, you may paint the surface. A stick of paste-paint, such as is used by actors, may be employed to smear the surface and hide the discoloration.

It is unwise to cut the skin to remove the blood, or to apply a leach. If the surface is broken in this way, it may become infected and cause a lot of trouble.

BLEEDING, OR HEMORRHAGE

WHAT TO DO IN AN ATTACK

1. Send for the doctor at once.
2. Wash your own hands with soap and water, clean your finger-nails, and wash your hands again.
3. If bleeding can be controlled by firm pressure from a pad of gauze, plug the wound with strips of sterilized gauze, and apply a pad of the gauze and a bandage to hold the pad in place. If sterilized gauze is not at hand, use the cleanest linen available.
4. If bleeding cannot be controlled in this way, apply a tourniquet between the wound and the heart. If you have no tourniquet at hand, a neck-tie, a shoe-string, a handkerchief, or a strong string will serve. Place a pad made of a piece of wood or a flat stone (dropped in boiling water, if possible), or a clean rolled-up handkerchief, over the injured blood-vessel two inches from the wound. Tie the band around the limb and over this pad. Insert a stick and turn it around, twisting the band and causing it to press the pad into the tissues over the bleeding vessel.
5. Do not keep the tourniquet tightened too long. If hours must elapse before the doctor is seen, loosen it occasionally, and if the bleeding stops, remove it.

EVERYBODY is afraid of blood. Its appearance frightens the injured person, and it may cause some of the onlookers to turn faint. We have an inborn fear of this vital fluid.

You know there are two kinds of blood-vessels—arteries and veins. When an artery of considerable size is cut, the blood is brilliant red in color. It may flow in a steady stream, or come in jets, corresponding to the pulsations of the heart.

The blood from a large vein is very dark red and may

be almost black in color. It is likely to flow in a steady stream.

When a large vessel, whether a vein or an artery, is cut, the bleeding may cause death in a very short time. Fortunately, the fright caused by the sight of blood is enough to produce fainting. In this state the heart's action is very weak, the flow of blood is decreased, and it becomes clotted, ending the bleeding.

A clean cut across a blood-vessel is more serious than a ragged and bruised wound. In the latter clotting is more rapid. In the former the bleeding will continue until proper treatment is applied.

The effects of severe bleeding are pronounced. Buzzing in the ears, blurring of vision, dizziness, cold sweat, whiteness of face and lips, restlessness, rapid pulse, and shallow breathing are among the symptoms.

When there has been serious bleeding and by reason of care or good fortune a clot forms, the danger is not past. A blow or sudden movement may displace the clot and cause renewal of the hemorrhage.

It is not necessary to have a large wound to produce serious bleeding. I recall a case where, as a result of a chemical laboratory explosion, a tiny piece of metal was blown through the skin and the wall of the large blood-vessel in the groin. With very little external evidence of hemorrhage, so much blood escaped into the soft tissues as to cause the death of the boy.

You can see that every case of bleeding is associated with unpleasant possibilities. It is well, therefore, to know exactly what to do to control hemorrhage.

Everybody knows that a tight band around the limb, between the wound and the heart, will control the bleeding from an artery. This device is called a "tourniquet." A neck-tie, a shoe-string, a handkerchief, a napkin, a piece of rope, or of strong twine will serve this useful purpose. A piece of wood, a flat stone, or a rolled-up handkerchief will make a suitable pad to place over the injured blood-vessel a couple of inches or more from the wound. The constricting band is

tied around the limb and over the pad. This can be drawn tight by inserting a stick and turning it round and round, thus twisting the band and causing it to press the pad more and more into the tissues over the bleeding vessel.

At this time I wish to warn you of what may happen if this constriction is continued too long. It is dangerous to keep the structures under such pressure for a prolonged period. If it is continued, there may be death of tissue from cutting off the circulation, producing what is called "gangrene." When a tourniquet has been applied, the victim of the accident should be taken to the doctor at once. If hours must elapse, the constricting band should be loosened from time to time and left off entirely when it is found the bleeding has stopped.

When it can be controlled by firm pressure from a pad of gauze, this is a better way of treating the injury than by the application of the tourniquet. Firm pressure with pads dipped in water hot as can be borne will serve frequently to stop the oozing of blood.

BOILS AND CARBUNCLES

WHAT TO DO

1. Apply hot-water compresses, or use repeated applications of camphor, or of a ten per cent solution of carbolic acid in glycerine.
2. If the surface is broken, keep covered with clean gauze.
3. Consult the doctor. It may be necessary to lance the boil.
4. Give lemonade or lemon-juice several times daily.

A BOIL is a localized inflammation of the skin, developing pus and a "core" or slough. It is due to a germ called the "staphylococcus."

In order to give this germ a chance to do its work, it must be made to penetrate the tissues. For it simply to alight on the skin is not enough. It must be rubbed in, or otherwise thrust into the substance of the skin. For this reason boils are found in those parts which are played upon by the clothing. The rubbing of the collar upon the neck, or of the garments upon the buttocks, may give the staphylococcus just the right conditions to force it into the tissues. Soiled underwear or athletic garments may also cause boils.

The habit of scratching the ear canal with a hair-pin or tooth-pick may cause the entrance of the germ into the skin and result in one of those painful things, an aural boil.

A carbuncle is like a group of boils. Instead of discharging its contents through one opening as a boil does, it has several, perhaps many, openings. The skin becomes dark red, hard, and it looks as if it has been varnished. In a week or ten days the pus appears at the surface and breaks through the skin at several points.

The seriousness of carbuncles depends on the age and general condition of the victim. If he is young and vigorous, he will come through without danger to his life. Old persons and run-down or ill persons may have serious results from carbuncles.

There are certain diseases, particularly diabetes, in which carbuncle is a rather common complication. On this account every person who has carbuncle or repeated boil formation should have the urine examined to make sure there is absence of sugar.

A bad carbuncle will last from four to six weeks and may be very debilitating.

With the advent of certain seasons there is sure to be an increase in certain diseases. For instance, in the spring boils are apt to be common. This is particularly true of boils in the ear canals.

Winter plays havoc with health. The city folks go to banquets; they eat rich food and stay up late at night. During the cold weather they walk little in the open air. Streetcars, subways, automobiles and taxis are too convenient.

Country people eat rich food—delicious pancakes and sausage, pork gravy and all the fixings. Outdoor chores are not so regularly performed. Stormy weather results in unaccustomed inactivity.

Winter means too much rich food and too little exercise. It means too little fresh air. It means neglect of the skin. Lack of perspiration and less frequent bathing cause the skin to clog and leave it the ready victim of infection.

All these conditions lower the vitality and lessen the powers of resistance to germ action. Likewise, they increase the demands upon the kidneys, and any weakness here is apt to show itself by skin defects.

When boils appear, whether in the ear canals or elsewhere, make a survey of the body to see what is wrong. Lots of times bad teeth or bad tonsils may be producing pus which travels to the skin surface, to cause trouble there.

Staphylococci thrive in dirty places. They are found in public places, where multitudes congregate, in the dust of

the streets. They are city germs. Unless they find a break in the surface of the body, they are harmless.

So many diseases are conveyed by the hands that you should never forget the importance of frequent washing. Clean hands and clean finger-nails will do much to guard against infection of the skin of any sort, and particularly against boils.

The worst feature is the likelihood of repeated boils—"crops" of boils. When once the system gets into condition from this infection, you are fortunate if the trouble ends with the first boil.

At the very beginning a boil may sometimes be aborted by applying iodine or other strong antiseptic. Hot-water applications or the repeated application of camphor may allay the inflammation. A ten per cent solution of carbolic acid in glycerine applied to the sore place may relieve. Usually it will be necessary to have the doctor incise the boil to promote the drainage.

Should a second boil appear, it should be a warning to see about your general health. The kidneys should be looked after and a careful examination should be made to see what is wrong.

Lemonade or lemon-juice is a good thing to take every day if there is a tendency to boils.

The bowels should be kept open, good food should be provided, and pastry shunned.

Fresh air, sunlight, exercise enough to get a good sweat every day, and plenty of water to drink—all these things are essential to relief.

For a succession of boils, or for a carbuncle you should see the family doctor. He may determine that a vaccine should be tried.

BREAST PANG, OR ANGINA PECTORIS

(KNOWN ALSO AS NEURALGIA OF THE CHEST, AND NEURALGIA OF THE HEART)

WHAT TO DO IN AN ATTACK

1. Send for the doctor at once.
2. Loosen the clothing, removing corset and tight collar, and if possible put the sufferer to bed.
3. Give a stimulant (such as half a teaspoonful of aromatic spirits of ammonia in a little water).
4. Apply heat to the chest, between the shoulders, and to the feet.
5. After the first attack keep on hand amyl nitrite pearls. Break one of these in a handkerchief and allow the patient to inhale the vapor.

THERE are some things in life which are fundamental. If they are shaken, or in any way disturbed, the bottom seems to have fallen out of existence.

Did you ever experience an earthquake? We look upon Mother Earth as fixed and unfailing. An earthquake gives you the strangest feeling of wonder, doubt and loss of grip on the "eternal verities."

Uninterrupted action of the heart is essential, not only to comfort, but to life itself. We expect the heart to run on without friction and to do its vital work without murmurings or calls for help. Ordinarily we are as unconscious of the action of this organ as we are of the dynamos which furnish electricity for our homes, or of the great reservoirs which supply us with drinking water.

When there is a "catch" in the heart, a missing beat, or any other sign of trouble, it gives us a pang of fear, not unlike the feeling an earthquake gives. When there is actual

pain in the heart, it is as if another of the eternal verities had been destroyed.

There is a disease called angina pectoris, and also known as breast pang. This condition is as well named as it could possibly be, because it makes itself known by an agonizing, choking, gripping, vice-like pain in the chest. It is as if there were a terrible cramp in the heart.

The pain in angina is almost enough to kill, and in some cases the mental agony adds the finishing blow. There is always the fear of immediate death.

The first case of angina pectoris I ever attended was when I was a young doctor, in practice but a few weeks. I was called to see another doctor who lived alone in his office on the top floor of a big building. It was in the middle of a dark, rainy night. I felt my way up the stairs and along the shadowy halls to find my patient on the floor writhing in agony. The doctor thought he was dying, and I did too. To tell the truth, I was as scared as the suffering man. There went through my head visions of a dead man being found in the morning and bloodhounds tracking me to my room where I would be arrested for the mysterious murder of a fellow practitioner. By this time my patient and I were "sweating blood," but with the urgings of an apparently dying man and the necessity of saving myself from prison, I am sure nobody ever worked harder to save a life. Daylight found us triumphant. My patient recovered!

Angina pectoris indicates a disease of the heart and of the blood-vessels of the heart, or of the tissues immediately surrounding this organ. It is frequently caused by disease of the blood, which may follow various acute infections.

The spasms are periodical and are brought on by mental excitement, unusual muscular effort, dyspepsia, overeating, exposure to cold, and any sudden shock. Excessive use of coffee or tobacco or overindulgence in liquor may precipitate an attack.

The victim of this condition should be examined thoroughly by a doctor who will provide remedies to carry and to be used when the spasms occur. The examination will

include a test of the blood to see if by any chance this may disclose an underlying condition which may prove to be the cause of the disease.

When the attack occurs the collar should be taken off and the clothing loosened. If a woman is the victim, the corsets should be removed. If possible, place the patient in bed and cover warmly.

Hot-water compresses should be applied to the chest, after the patient has been laid on a flat hot-water bag, placed between the shoulder-blades. Another hot-water bag or bottle to the feet will help. Take care not to burn the skin of a person rendered indifferent to ordinary suffering by reason of the agonizing pain in the heart.

A stimulant will be helpful. You may give half a teaspoonful of aromatic spirits of ammonia.

There is a drug called nitrite of amyl which is put up in glass capsules, or pearls. One of these capsules broken in a handkerchief and breathed by the patient usually gives instant relief.

By proper care the dangerous attacks may be warded off, or may be rendered less severe. Like other forms of spasmodic and occasional pain, the exciting factors must be discovered. When these are removed there is hope of recovery.

BROKEN BONES

WHAT TO DO

1. Support the injured member to prevent tearing of muscles and tissues until the doctor comes.
   a. For a broken leg, make a splint of anything at hand—a piece of wood or strip of bark, a broken cane, a rolled-up newspaper, a roll of straw, a pillow—and bind it to the leg above and below the break.
   b. For a broken arm, make a sling of a handkerchief and bind this, with the arm in it, to the body with a larger cloth.
2. Get the patient to bed with as little strain on the broken bone as possible.

HOW would you know when the bone is broken?

First, there may be a loss of motion. Following the break in the bone the muscles sometimes contract, making it impossible to move the part freely, if at all. Then there may be deformity, the normal line of the limb being broken. Pain and "crepitus" are other symptoms. Crepitus is the peculiar sound or feeling which results when the ends of the broken bones are rubbed together.

Modern inventions have changed many of our methods of dealing with disease and injuries. For instance, in handling broken bones the old-time practitioner had to trust to his sense of touch. By gentle manipulation the broken ends were brought together and the sensitive finger-tips of the doctor determined when the parts were in proper position.

This method does very well in thin subjects. But where the victim of accident is a two-hundred-pounder, it is a difficult task, and there can be no certainty of success.

The discovery of the X-ray and the invention of the X-ray machine have wiped out all these doubts. By the use of this wonderful agent the bones are clearly seen and the surgeon can know at once whether his attempted replacement has succeeded. This solves the problem of immediate treatment. But the later management of the fractured bone and of the injured person is just as puzzling to-day as it was a hundred years ago. What shall be done depends on the nature of the break.

Fractures are divided into complete fracture, in which there is a complete break, the bone being divided into two parts, and incomplete fracture.

Incomplete fracture is sometimes called green-stick fracture, because it is like the imperfect break which follows your attempt to break a limb off a living tree. Part of the fibers break in two, but most of them merely bend. This is the kind of fracture we are likely to find in young people, because their bones are less brittle than in advanced life.

A compound fracture is one in which the bone breaks and the ends stick through the flesh and skin, forming an open wound. An impacted fracture is one in which the shattered ends of the broken bones are driven into each other.

What would you do if you were in the woods miles from assistance and a companion fell and broke his leg or suffered some other form of fracture?

Bear in mind what you must accomplish. Not alone are you seeking to save your patient the agonizing pain he will suffer when you render efficient help, but also you must protect the soft tissues from being bruised and cut and jammed by the splintered ends of bone. To do both things you must care for the injured person in such a way that the broken ends of the bone are kept from movement.

Discourage any effort of the injured person to help himself. He must be kept quiet until you have prepared him for movement.

With the greatest care and gentleness, slowly straighten the broken limb. If there is no external bleeding—showing that there is no protrusion of the bones through the skin—

it will be all right not to remove the clothing from the injured part. To do so would require unnecessary effort and pain for the patient.

Now you want a splint of some sort. In determining what it shall be, put on your thinking cap. Strips of wood, bark, pasteboard from the lunch-box, rolled-up newspaper, bundles of twigs or straw, a broken cane or umbrella handle, the rib of the umbrella, a piece of broomstick—anything which offers support can be used.

Have the splints long enough to extend well above and below the broken place, and if possible beyond the next joint. Then bind them firmly against the limb, using handkerchiefs or strips of cloth torn from the shirt or clothing. Have the strips wide enough so they won't cut into the flesh of the injured person.

Fashion some sort of a crutch so that the patient can help himself somewhat when you get him up. But do not attempt to raise him if help is within reach. It is better to go some distance for assistance than to take chances on self-help with further damage from the splintered bones. It is much better to get a mattress, an improvised stretcher, a wide board, or a wagon, and to carry the injured person without his helping himself.

But if no aid is within reach, you must attempt the job yourself. When once the patient is on his well foot and supported by his crutch or staff, he can put his arm across your shoulders and by easy stages you can support him to a place where help can be had.

If the arm is broken, it may be supported in a sling made of a handkerchief, a towel, or a piece of cloth. Then if it is bound to the body by a larger cloth, it will be more secure and less likely to be jarred or harmed.

Some persons have abnormally brittle bones. They lack certain elements or have too much of others. The bones snap on the slightest unusual strain. A fall on a sidewalk may result in fracture. I know a man who has had at least one break a year from his earliest childhood.

As we grow older the tissues become more brittle. Chil-

dren have elastic tissues and flexible bones. When we learn just how to eat and how to select exactly the right foodstuffs, then our bones and all our other structures will be strong and resistant to injury and disease.

BRONCHITIS, ACUTE CATARRHAL

WHAT TO DO IN AN ATTACK

1. Put the patient to bed.
2. If there is great difficulty in breathing, give inhalations from a "croup-kettle." Make a tent by placing an open umbrella over the crib or bed, spreading a sheet over this, and draping it around the head and chest of the patient. Under the tent place the "croup-kettle." This is a kettle of boiling water to which one teaspoonful of compound tincture of benzoin, ten drops of turpentine, and ten drops of creosote are added to each quart of water.
3. Call the doctor.

ONE of the most common ailments among children and frail adults is acute catarrhal bronchitis.

In children adenoids and diseased tonsils may have much to do with the tendency to repeated attacks. In some adults there appears to be a peculiar weakness of resistance to this condition.

I am surprised that so many persons disregard chronic nasal catarrh and go on suffering all the annoyance of that trouble without making any particular effort to remedy it. The popular idea is that catarrh is an inevitable thing. "This climate"—no matter where the victim lives—"is bad for catarrh, and it cannot be cured here," is a regular excuse.

There is always a cause for catarrh. Many times it is a local trouble which can be removed. So long as the catarrh continues, there are myriads of germs ready to slide down the throat into the bronchial tubes and set up housekeeping there.

Exposure to cold from neglect of proper clothing, or

wrong use of outside wraps, may be followed by bronchitis.

Too many persons, especially women, wear their coats and mufflers in-doors and, no matter how long they remain, do not loosen or remove them. This practice excites perspiration and, in returning to the open air, there is evaporation of this moisture and chilling of the body surface. Chilling causes the blood vessels inside of the skin to contract, and this forces the blood to the deep parts of the body. The bronchial tubes take part in the internal congestion.

Along with the chilling is a lowering of resistance, and the alert little germs have a chance to break through the protective tissues. Then comes the bronchitis.

Bronchitis is a common complication of measles, scarlet fever, whooping-cough, influenza, typhoid fever, and other infections.

When once there is universal appreciation of the importance of well-ventilated sleeping-rooms and a reasonable amount of out-of-door life, there will be less bronchitis. The latter is vital. On this account, a moderate climate in winter is a favorite form of treatment for those who can afford to travel. Most of us must stay at home, so we should arrange our homes to get the maximum of fresh air without cold drafts.

During the attack, while there is fever, the patient should be in bed.

If there is great difficulty in breathing, the "croup-kettle" and tent may be used. An open umbrella may be placed over the crib or bed, a sheet spread over this and draped around the head and chest of the patient. A kettle of boiling water, to which have been added a compound tincture of benzoin, turpentine and creosote, is placed under the tent. The steam vapor gives great relief.

The doctor will be called and he will administer the remedies.

(See also *Adenoids; Catarrh, Nasal; Chills and Colds; Cold, Why We Should Not Neglect a Common; Bronchitis and Bronchial Asthma; Coryza; Influenza; Measles; Scarlet Fever; Typhoid Fever; Whooping-cough.*)

BRUISES AND BUMPS

WHAT TO DO

1. Raise the injured part.
2. Bind a small ice-pack on the bump or bruise, or apply cold water.
3. The next day apply a hot compress for fifteen minutes at a time every two hours.

BESIDES all the accidents which break the skin and produce open wounds and those which cause dislocations, sprains and strains, there are endless numbers which injure the deep tissues without opening the surface.

Blows from the fist or from a club, pinches of the arm or leg, falls on the head, running into a door, or being run into by an automobile—any one of these accidents will injure the deep tissues.

In this way are produced bumps and bruises. They are among the most common of human ailments.

We differ in the strength and thickness of our blood-vessel walls and in the resistance of our tissues. Some of your friends have black-and-blue spots half the time and you may never be so afflicted. This is due to the greater elasticity or greater thickness of your vessel walls and other tissues.

Age is a great factor, too. With increasing years the vessel walls become hardened, and a trifling injury will cause a rupture, followed by an escape of blood into the tissues.

There are conditions which result from hard blows or crushing injuries, causing damage to the soft tissues and to the muscles. These may be seriously torn and mutilated. The blood, or the fluid part of the blood, oozes out into the tissues. In Nature's efforts to repair the parts and to carry away the products of inflammation there is great congestion

of the blood-vessels. Naturally, therefore, the part is swollen, causing a big welt or bump.

What should be done in such injuries?

The first thing to do is to stop the bleeding which is going on under the skin. Elevation of the part, gentle pressure and cold applications will accomplish this.

I am assuming that the accident has just happened. A few hours later, or the next day, these measures will be of no value. But when the bump first comes up or the bruise has just been received, they will be most helpful.

Gravity is a very important consideration in trying to stop bleeding. If a damaged part can be elevated above the rest of the body, it helps a lot.

Ice-packs or frequent applications of cold water will go far towards stopping hemorrhage. A small ice-pack bound on by bandaging will be useful.

To take down the swelling which continues, you may begin the next day with hot applications. Dip a towel in water as hot as can be tolerated. Apply this to the bruise or bump and cover it with a dry towel. Keep this up for fifteen minutes and repeat the procedure every two hours.

BURNS

WHAT TO DO

1. If the burn is severe or extensive, send for the doctor.
2. Apply carron oil, boracic acid ointment, lard, butter, vaseline, flour, bismuth, alum, sodium bicarbonate, or any other soothing or protective substance.
3. Remove the clothing carefully from the burned surface, so as not to tear the skin. If it adheres to the skin, immerse the part in warm water or oil, until it softens and can be removed.
4. Keep the hands and all materials surgically clean.
5. If the burn in slight, smear the oil over the damaged skin, apply gauze, and bandage securely so as to exclude all dirt.
6. Redress every day, taking great care to avoid infection and damage to the wound.

ONE of the most common accidents in life is burning the body surface. Matches, hot stoves, sputtering lard, curling-irons, firecrackers, electrical apparatus—there are innumerable ways of meeting with this uncomfortable experience.

Burns differ in degree and severity. Their seriousness depends on their extent and depth. A burn so mild as merely to redden the surface will result in death, provided two-thirds of the entire body is involved. A deep burn of limited area is very much less dangerous.

Burns of the face and hands are more important and serious than burns elsewhere. There is more shock usually from such injuries.

For slight and superficial burns some protecting agent should be used. There are numerous remedies to be thought of in this connection. Perhaps the first one is vaseline. Lard, butter, cream, or any other grease will do as well.

Boracic acid, flour, or soda may be smeared over the painful surface. The powder will exclude the air and promote the comfort.

A simple boracic acid ointment is one of the most satisfactory of all remedies. It may be used in any stage. It is smeared over the surface to exclude the air and stop the pain when the accident first occurs. It may be applied daily till the cure is complete.

Sometimes a bicarbonate of soda ointment will do more to control pain, but after this has been allayed, the boracic acid ointment will be substituted.

During the war, paraffin and amber oil were used for burns. They were sprayed on the damaged surfaces. Several such mixtures, sold under various trade names, are to be found in drug stores.

The British Army had a paraffin mixture, known as "Government No. 7," or "Paraffin No. 7." It is made as follows: Hard paraffin, sixty-seven per cent; soft paraffin, twenty-five per cent; olive oil, five per cent; eucalyptus oil, two per cent; resorcin dissolved in alcohol, one per cent.

This mixture is warmed till it is fluid, and then painted on the burned skin. A brush may be used for the purpose. Then a thin layer of cotton is spread over the surface and wet with the paraffin mixture. Over all this is placed more cotton and a bandage is applied.

A simple remedy is made as follows: Eucalyptus oil, five drops; menthol, two grains; carron oil, one ounce. Some of this mixture may be applied to the burn every little while.

Picric acid in a one per cent solution is another useful and pain-allaying application. It produces a lemon-colored stain of the skin which can be removed by an alkaline solution of some sort.

The benzoated oxide of zinc ointment which is useful in many skin conditions will add to the comfort of the person who is burned.

I have spoken of several applications, hoping that one at least of the possible remedies may be available. Children suffer so from the effects of burns that it is well to have in

mind a lot of things, so that under every circumstance relief may be afforded the little sufferer. Incidentally, the grown-up will be glad if you can suggest a remedy for a painful burn.

A severe burn differs from a mild one, because it creates the pain, and, in addition, produces profound constitutional disturbances.

First, there is more or less shock. As a result, the heart action is feeble and the blood stream sluggish. The patient becomes pale and faint. He may sink into unconsciousness.

Pretty soon the temperature rises. Instead of being below normal, as the symptoms of shock pass off, there may be considerable fever.

The burn produces toxic substances which poison the system. As a result the kidneys or other internal organs may become inflamed.

Very young children and the aged suffer most from severe burns. In such persons particular care must be used to guard against the poisonous effects of the accident.

Burns differ from cuts in that immediate healing is impossible. On this account secondary infection is very common. That is, pus forms in the burned tissues and the danger of blood-poisoning is added.

Because of the danger of pus infection, burns must be treated from first to last with the greatest care. Conditions are so favorable for germ growth that it requires constant watchfulness to prevent it.

The first aid rendered the victim is of the greatest importance. The clothing must be removed with as little discomfort as possible. Ordinarily it is better to cut it off the body, so as not to disturb the burned tissues. If it adheres to the skin, immerse the part in warm water or oil until the cloth softens and can be removed without damage to the tissues. The clothing may be dirty or germ-infected. It must be gotten away with as little contact with the injured parts as may be. Great care should be used not to tear the skin or otherwise add to the seriousness of the affair.

If a doctor is within reach, it is better to stop at this stage

of your work, cover the wound with gauze or a clean handkerchief, and wrap the patient in blankets. If he is suffering greatly from shock, pack hot-water bags or hot bricks wrapped in cloth about him. Be extremely careful not to have them so hot as to cause another burn. Lower the head and keep the patient quiet.

When the doctor comes, he will thoroughly cleanse the skin and injured tissues. He may open the blisters and with an antiseptic lotion wash away all the loose tissue.

It must be remembered that each dressing must be just as carefully made as the first one. Your own hands must be washed and scrubbed with soap and water, and your fingernails made perfectly clean. Otherwise, the damaged tissues may become infected. The more the infection, the greater the danger to life and the greater the amount of scar.

What happens to a burn depends on the sort of care it has outside the doctor's office. If a burned surface is kept perfectly clean—surgically clean—there is little delay in healing and little discomfort. Unless it is properly cared for, an insignificant burn may develop into an uncleanly, suppurating, dangerous sore.

It is hard to get everybody to realize that any open, raw wound is exactly the kind of an entrance germs like to discover. The warmth and moisture of the tissues following a burn offer exactly the soil germs need for their lusty growth.

On this account the danger of a burn does not end when the pain stops. That may be but the beginning of really serious trouble. The wound must be protected from contamination from start to finish.

Cleanliness is the secret of quick and happy healing.

CHILLS AND COLDS

WHAT TO DO IN AN ATTACK

1. Have the patient remain for half an hour in a tub of hot water, drinking a quantity of hot lemonade or hot water.
2. Put him at once to bed and keep him between blankets until perspiration has ceased.
3. Sponge him off with alcohol or cold water and put him to bed between dry sheets for the night.
4. If constipated, give a tablespoonful of mineral oil or castor oil.

A CHILL is not a disease. It is merely a symptom, but sometimes it proves to be the first sign of a serious disturbance. For instance, it is quite common to have influenza or pneumonia herald its approach by a vigorous chill.

It is remarkable what a part the chill plays in a disease like typhoid fever. It may usher in the disease. Occurring during the course of the attack, it may indicate the onset of some complication like pleurisy, pneumonia, inflammation of the middle ear, or some other inflammatory process. There is always the fear that a chill may indicate pus formation somewhere.

In most instances, when a person up to that moment has seemed perfectly well, the chill indicates the beginning of a cold, or that some digestive disturbance is making itself known. In an infant the same sort of physical condition might begin with a convulsion.

It makes little difference what is the cause of the chill, or what will follow it; there are certain general rules which should govern your actions. Here is the first one:

Go home, get into a hot bath, and then go to bed immediately.

In dealing with a chill your endeavor should be to recall to the surface of the body the blood which has been driven away, and to cause the sweat glands to resume their interrupted work. The measures used for this purpose will not kill the germs of disease which are at work in your body, but they may abort or reduce an inflammatory process. There can be no inflammation without an excess of blood. Therefore, any treatment is good treatment which succeeds in taking away from the inflamed areas quantities of blood which otherwise would add fuel to the flame of disease.

Many a cold would be nipped in the bud were this first rule observed universally. But nobody wants his work interrupted, the employer cannot spare the loss of time, and the employee can ill afford to lose the wages. The too frequent result is that nothing is done in time to stop the progress of the oncreeping disease.

But if you can do it, fill the bath-tub or a wash-tub with water just as hot as you can endure. Curl down in the water and stay there half an hour or thereabouts. From time to time add hot water, keeping the temperature as high as you can stand.

Now comes the second rule:

Drink a lot of hot water or hot lemonade. This will help to bring on the sweat which is the good sign you seek.

If you cannot leave your work to take the bath and hot drinks, a teaspoonful of Jamaica ginger may add to your comfort.

At the end of the bath, rub off quickly with a coarse towel and go to bed between blankets. This will make you perspire still more. At the end of an hour your sweat will be over. Then you should sponge off with cold water or alcohol and get into bed between dry sheets.

Probably sleep will fall upon you very quickly. Stay in bed till the next morning, and if you do not feel much improved, send for the doctor.

If you suspect there is any stomach or intestinal disturbance, a tablespoonful of castor oil will not be amiss as the

final step in the treatment of the disturbance indicated by the chill.

Constipation predisposes to colds. Absorption of the waste material and its products is harmful and leads to all kinds of disabilities.

Excesses of all sorts are damaging. An occasional lapse from correct living may not do lasting harm, but habitual sinning will create conditions favorable to disease and shortened life.

Never go to sleep without a thorough washing of face and hands with soap and water. Prepare for your bed with just as much care as you would for company dinner. Wash out the openings to your nostrils.

Cleanliness means everything in the way of escape from every ailment, especially colds. Abundant rest and recreation in the open air or well-ventilated rooms will make you strong in your resistance to illness.

(See also *Adenoids; Bronchitis, Acute Catarrhal; Chicken-Pox; Cold, Why We Should Not Neglect a Common; Coryza; Diphtheria; Influenza; Measles; Mumps; Pleurisy; Pneumonia; Scarlet Fever; Typhoid Fever; Whooping-cough.*)

CHOKING

WHAT TO DO

1. Slap smartly on the back several times.
2. If this fails and the victim is a child, hold him up by the feet with head down, and slap him on the back.
3. When the offending object remains in the throat, try to get it out with your finger. Have the victim sit facing the light, stand behind him, supporting his head against your chest, press your left forefinger into the tissues of the cheek between the open jaws so that he will not bite your right forefinger in a struggle, hook the right forefinger around the offending object and try to take it out. Be very careful in doing this not to push the object farther down the throat.

MOTHERS have many things to worry about. Babies make endless kinds of funny little noises. They gurgle, and cough, and gasp, and sneeze, and choke. A timid woman has as many varieties of noises to frighten her as a tenderfoot has who is sleeping his first night in a tent out in the wilds.

You cannot bring up a family without running into a lot of emergencies. The more you know about how to deal with them, the better for all concerned.

It is an almost daily occurrence for one of the children to choke during his meal. The food "goes the wrong way." There is an immediate response from the child. His paroxysms may be funny to observe, but the trouble is they may have a serious ending.

When the child has bolted a mass of unchewed food, it may get caught in the windpipe and produce dreadful results. The same danger may follow an attempt to swallow a coin of some sort.

At first a foreign body in the throat will produce coughing, gasping, difficult breathing and sensations of choking.

If the victim is calm and has enough self-control to restrain himself, the spasm will subside. Even though a considerable part of the breathing space is filled by the foreign substance, he will breathe fairly well.

In a case of this sort, there will be time to call a doctor and thus to get expert assistance. But there is no time for this if the patient gets black in the face and is unable to catch his breath.

Sometimes a smart slap on the back will cause coughing and expulsion of the offending substance.

If this fails, the child should be held feet up and head down. Then a slap on the back will be assisted by gravity and the mass may come out in a hurry.

If this procedure does not succeed and danger of suffocation is present, you must try to get the mass out with your finger.

What you are attempting is a delicate operation. You must be exceedingly careful and cautious or the foreign substance will be pushed farther down the throat. The tip of the finger should be hooked around the offending mass and pulled out.

If you stand behind the sufferer, support his head against your chest, press your left forefinger into his cheek, so as to press the soft tissue between his open jaws, you will be safe from having the right forefinger bitten off by the struggling child. With the right finger you should be able to fish out the offending substance.

If all these attempts fail, instrumental methods must be used. There are clever, electric-lighted devices made to illuminate the parts and permit the passage of delicate forceps to catch and remove the foreign body. As a very last resort, nothing is left but tracheotomy—an incision through the skin into the windpipe.

(See also, *Lungs, Foreign Bodies in the; Swallowing a Foreign Body.*)

COLIC IN CHILDREN

WHAT TO DO IN AN ATTACK

1. Give a rectal injection of hot water and soap.
2. Apply hot-water compresses or a hot-water bottle to the abdomen.
3. For an adult or a child (not a baby) give an emetic of one teaspoonful of mustard flour to one pint of water. Have the patient take the whole amount.

MANY a young mother has been frightened nearly to death when her baby, without the slightest warning, has let out a shriek loud enough to raise the dead.

Now, what does it mean? This is a symptom of colic.

Crying in very young children is frequently due to colic. The child may seem perfectly well and go to sleep as usual. Suddenly it starts from sleep and utters a cry. The legs are drawn up, or moved about in efforts to get relief from the pain.

There are many causes for colic. Wrong feeding is the most common one. Undigested food in the intestinal tract produces the trouble. Generally there is constipation, with intestinal fermentation as a result. The gas formation is followed by colic.

Too much sugar, too much candy—these are common causes. Over-feeding and irregular feeding are other important factors. Hasty drinking of the milk or bolting the other food may be followed by these unpleasant symptoms.

While we are speaking particularly of colic in children, the same causes will produce colic in grown people.

The sudden cry of a child is not always due to colic. It may come from earache, and the possibility of ear trouble must never be overlooked.

Frequent attacks of colic demand correction of the feed-

ing. The first thing to do is to select the right food, to prepare the milk properly, and to give the food at regular times.

The constipation should be overcome by right feeding and, at the time of the acute attack, the bowels must be emptied at once. An enema of hot water and soap will speedily stop the cutting pains of colic. One or two pints of water will be effective.

Hot-water compresses to the abdomen or the use of the hot-water bag will promote comfort.

I am sorry to say that paregoric is given by mothers to relieve the colic of the baby. Under no circumstances should paregoric or any other opium product be given by a layman. It is rare, indeed, for the modern doctor to resort to opiates, but, if they are ever justified, they must not be given without the personal direction of the family doctor.

Sometimes rhubarb and soda, or milk of magnesia, or a little baking soda in water, may be given. But it is better to employ the enema and hot applications, and call the doctor if relief is not obtained quickly.

(See also, *Cramps.*)

CONVULSIONS IN CHILDREN

WHAT TO DO IN AN ATTACK

1. Send for the doctor.
2. Immerse the child up to the neck in a tub of warm water.
3. Apply ice-bags or cold compresses to the head.

NOTHING is more alarming to the young mother than to have her child go into convulsions. The child is apparently perfectly well. Without warning of any sort, it suddenly takes a fit. The eyes roll up, the body gets stiff, the head is drawn back, and the breathing may stop for a few moments and the face get black.

To one who has never seen an attack of this sort, the whole affair seems very serious. Fortunately, permanent ill effects rarely follow, but wise treatment during the attack is most essential, of course.

The most common cause for convulsions in children is indigestion. Conditions leading to fever in adults often cause convulsions in children. A trouble that in an adult would produce slight fever, in a child will cause high fever. Also a child may have convulsions under conditions which would induce a chill in older persons.

The nervous system of a child is more delicate and more responsive than it is in grown-ups. On this account, what may seem to be trifling things will result in violent disturbances.

Fortunately, bad milk and contaminated food are rarely given children in these days of health knowledge. Especially since pure milk has been supplied the cities, intestinal troubles in the young have become extremely rare.

Teething is a cause frequently given for convulsions. It

is probable that the teething period simply coincides with the time of life when milk is the chief food. Very likely the digestive trouble is more responsible than the teeth. Indeed, convulsions are most frequent during the first half-year of life and before any teeth have appeared.

All the common infectious diseases of childhood are at times ushered in with convulsions. Measles, scarlet fever, and pneumonia, for instance, may begin in this way. Worms, stomach disturbance, indigestion, and toxic effects of various sorts may produce convulsions. The kidneys are a prolific cause of convulsive attacks.

Anemia, undernourishment, functional disorders of the brain and nervous system and disturbances of the circulation are other features which must be considered.

Simple convulsions are like the attacks met in epilepsy. It is very rare to have this latter disease before the age of three, while the convulsions I have described appear in a child under two years.

To control the spasms is the first thought in the treatment. The aim is to "draw the blood from the head."

If hot water is to be had, fill a tub with water as hot as safety will permit. Make sure that it is not too hot. Many a child has been harmed by plunging it into water of too high a temperature.

When the child is in the tub, keep the head cool by applying ice cloths or cold water.

The same thing may be accomplished by putting the feet in mustard water and applying cold to the head.

If the doctor is within reach, he may use chloroform to control the convulsions. Likewise, there are drugs which may be used by injection for this purpose.

Rectal enemas are very useful. Emptying the bowels may stop the spasms.

One attack should be a warning to investigate the health and, particularly, the methods of feeding the child. All the rules of hygiene should be practiced or ill-health, with convulsions, may ensue.

(See also *Epilepsy; Fits.*)

CRAMPS

WHAT TO DO IN AN ATTACK

1. Apply hot—not warm—compresses for twenty minutes or more over the affected part.
2. Gently massage the affected part, unless it is the abdomen.
3. If the cramp is abdominal, give a rectal injection of warm soapsuds.
4. If an adult has abdominal cramp, give bicarbonate of soda solution, tincture of ginger, essence of peppermint or aromatic spirits of ammonia, a half teaspoonful of the selected remedy in half a glassful of water.
5. Put the patient to bed and keep him quiet.

THERE are many kinds of pain and many causes for pain. Some pains we endure philosophically, because their onset is gradual and their causes understood.

Any phenomenon in Nature is disturbing if it comes without warning and is violent in its unaccustomed expression. An earthquake is a terrifying example of this truth.

Spasmodic and violent contraction of the muscles of any part of the body is always an unhappy experience. The pain may not be excessive, but the loss of control, the suddenness and completeness of the disability, and the moral sense of disaster, combine to make a seizure of this sort one of the terrifying experiences of life.

The most common form of cramps is bowel pain. The twisting, cutting, agonizing pain of an attack of abdominal colic will never be forgotten by the victim. He has visions of appendicitis, gall-stones, poisoning, and sudden death.

Many a boy has paid dearly for the green apples he has eaten. Many a man has paid for his equally absurd indis-

cretion. Filling a thirsty stomach on a hot day with a flood of ice-water has brought on spasms of pain from outraged Nature.

There is a form of cramps due to excessive labor in a very hot place. If you have ever visited the furnace room of a great steamship, you will not wonder that the human body must show its resentment in some forceful manner against continued muscular effort in such an atmosphere. As a matter of fact, firemen and foundrymen are liable to severe muscular cramps. There will be spasms of the muscles of the arms and legs and sometimes abdominal cramps. The attacks last for hours. Afterward, for days perhaps, there are soreness and lameness of the muscles and inability to work.

In the course of certain diseases, such as Bright's disease of the kidneys, cramps in the muscles and sudden spasms of pain are not uncommon. They are met, too, in any kidney disturbance where there is failure of elimination.

In an occupation where a given muscle, or set of muscles, is called upon for monotonous effort, there may be a cramp or spasm which will make it impossible to continue the work. Baseball pitchers get it, losing their skill by developing what is called the "wooden arm." Musicians who play the piano, violin, or other instrument, are liable to attacks. In literary persons it is called "writer's cramp." Telegraph operators lose the power to continue their calling. Professional dancers may be attacked.

Cramps in the muscles of the leg or foot occur in old, nervous or tired-out persons. On getting into bed, or in the middle of the night, these spasms come on, with pretty severe pain.

This review shows that cramps are invariably due to abuse of the body. Indiscretion in diet, failure of elimination, or overwork is responsible for almost every attack. The wise man will take heed.

For the attack itself, no matter where the cramps may be, there is no better application than heat. Hot compresses, not warm compresses, are indicated. Apply a large towel

or a piece of flannel, wrung out of water as hot as can be borne. Over this place a dry towel. As soon as the wet towel cools, dip it again, and continue the application for twenty minutes or more.

There are many capsicum salves, or other preparations containing capsicum and menthol, that give relief.

Massage is useful. When the cramp is in the leg or foot, extending the heel and drawing up the toes and the end of the foot will frequently relieve.

In a case of abdominal cramps, an enema of warm soapsuds is likely to give speedy relief, whether the patient be a child or an adult. If an adult, a tablespoonful of castor oil or a dose of salts may be needed.

Bicarbonate of soda solution, or soda-mint tablets, will neutralize the acidity of the stomach and may stop the cramps. A favorite household remedy is essence of peppermint, well diluted. Tincture of ginger is another good home medicine. Half a teaspoonful of either of these drugs, or of the bicarbonate of soda solution, will be about the right amount. Add a little sugar to the ginger or peppermint. In almost every home there is to be found aromatic spirits of ammonia. You may give half a teaspoonful in hot water for abdominal cramps.

Put the victim to bed and keep him quiet.

Whatever the nature and location of the cramp, seek the underlying cause, if the attacks are frequent, and find a way to avoid the trouble.

(See also *Colic; Intestinal Obstruction.*)

CROUP

WHAT TO DO IN AN ATTACK

1. Place the child in a tub of warm water.
2. Apply cold compresses to the throat.
3. Give an emetic. One teaspoonful of mustard flour to a pint of water—as much as the child will take—is a good emetic; or, if this is not at hand, one teaspoonful of powdered alum to four ounces of molasses or honey—a teaspoonful every fifteen minutes until vomiting is produced.
4. If attacks recur, have an examination of the tonsils and adenoids.

YEARS ago a good many conditions were not understood. Consequently it was not unusual to group together several ailments which are now recognized as separate and distinct diseases. The science of bacteriology, the science dealing with germs, has revealed the identity of several diseases and has proven that some of these formerly considered separate diseases are really identical.

Among these old-time puzzles we find "membranous croup," as it was called. This is now recognized to be diphtheria.

There is another disease which used to be called "false croup." It is usually referred to now as spasmodic laryngitis.

The larynx is the part of the throat between the base of the tongue and the windpipe. It is lined with mucous membrane and, like such membrane elsewhere, this is a tissue which is liable to become inflamed.

Children between the ages of two and five are most likely to be attacked by croup. It is usually preceded for a couple of days or less by running of the nose, slight cough, and,

possibly, a little fever. It may be thought the child has a mild cold.

In other cases there may be no warning signs. The attack comes on with great suddenness. In the early part of the night, usually after the first nap, the child is aroused from a sleep which may have been natural and undisturbed. He awakens with a loud and barking cough. It is a peculiar, metallic cough of unmistakable significance.

There is very marked difficulty in breathing. Every breath seems hard and whistling. The swelling of the membrane leaves little space for the entrance and exit of air.

The face becomes flushed. The skin is hot and the pulse is rapid. The child gives every evidence of fear and suffering. He cries, is very restless and wants to be carried.

In an hour or so the symptoms improve and the breathing is less difficult.

The attack may be repeated the next night, and perhaps for two or three nights in succession.

In the treatment there are two things to be accomplished. The first and immediate thing is to overcome the spasmodic closure of the throat. Then the inflammation may be treated.

If hot water can be had, fill a tub with it, at a temperature of about 100 degrees. Keep the little patient in this for a quarter of an hour. Be very careful not to scald the child. Apply cold compresses to the throat.

Sometimes a hot foot-bath, with a teaspoonful of mustard, may be enough to give relief.

The common household remedy is to give an emetic. For this purpose syrup of ipecac alone or with syrup of squills, one teaspoonful of each, is a favorite remedy. In its absence powdered alum in molasses or honey may produce vomiting. To four ounces of the honey or molasses add one teaspoonful of alum and give a teaspoonful of the mixture every fifteen minutes until vomiting results. It is better, however, if the child has one attack, to have the family doctor prescribe medicine for future occasions.

Children who have repeated attacks of croup should be

examined to see if they have diseased tonsils or adenoids. They should be given an abundance of fresh air, day and night, and should be taken out-of-doors every day. Sometimes the parents are so fearful of the ill effects of open air that they keep the child indoors, treating him like a hothouse plant. This is a mistake. Every child should be given an abundance of out-of-door life, no matter what the climate or season may be.

This advice is just as good for grown-ups. Open air is essential to good health. Some one said, and truly said: "You can't take cold in the middle of a ten-acre lot with the gate open!" One may "take cold" from a slight draft, but never from a real bath of fresh air.

(See also *Diphtheria.*)

WHAT TO DO

1. Wash your own hands with soap and water, clean your finger-nails and wash your hands again.
2. Paint around the wound with a seven per cent solution of iodine.
3. Wash out the wound with water which has been boiled. In the absence of sterilized water and gauze, use the cleanest water possible and a clean handkerchief.
4. Wipe out all dirt, splinters, and blood clots with wet swabs of sterilized cotton or gauze.
5. Bring the edges of the wound together by a narrow strip of adhesive plaster, applied crosswise, leaving a space on each side of the plaster for drainage.
6. Cover with several layers of gauze and bandage.

IT must be remembered that the healing of wounds does not depend on the application of some vile-smelling antiseptic. It *does* depend on cleanliness.

When we speak of cleanliness in this connection, surgical cleanliness is meant. There is a difference between the appearance of cleanliness and actual, surgical cleanliness. Water may look pure and clean, but be filled with the germs of disease.

To treat a wound properly it must be put into a state of real cleanliness and kept so.

It matters not whether the wound is made by the cut of a sharp knife, whether it is a tear made by a piece of tin, or whether it is a rip of the skin due to a rusty nail. In every wound, cleanliness is the secret of immediate and complete healing. After a puncture from a rusty nail a doctor should be consulted at once. There may be danger of tetanus.

The surgeon will use bichloride of mercury or some other antiseptic, but in first aid rendered by a layman, boiled water is about the best agent which can be applied.

The person who is to give the treatment should first wash his own hands thoroughly with soap and water. Then he should carefully clean his finger-nails. After this he should wash his hands a second time.

All this care may seem needless, but many a harmless cut has been infected through lack of these precautions.

Now you are prepared to wash out the wound. Water that has been sterilized by boiling may be freely used. It may be poured into the wound, or applied by swabs of sterilized cotton or gauze.

All dirt, splinters, bits of rust, blood-clots and other foreign substances should be washed or wiped out. The wound should be thoroughly cleansed in this manner.

In every household there should be a solution of iodine to apply to cuts and other injuries. A seven per cent solution may be painted around the wound before applying the water.

Having cleansed the parts thoroughly, they should be dried and some means employed to close the wound. Of course, the surgeon will use sutures, but the layman may bring the edges of the wound together by a narrow strip of adhesive plaster. This is not put on to cover the wound, and, indeed, the wound should not be covered. The strip of plaster should be used cross-wise and not be wide enough to cover the whole length of the cut or tear. There should be space on each side of the plaster for drainage.

After the wound is closed as best it can be with one or more strips of adhesive plaster, it should be covered with several layers of gauze and then bandaged.

In the absence of sterilized water and gauze, of course it will be necessary to use the cleanest water possible and a clean handkerchief. The latter may also be used in place of a bandage.

In every household should be a simple first-aid kit with the needed dressings for an emergency.

DIARRHEA

(KNOWN ALSO AS DYSENTERY, ENTERITIS, AND COLITIS)

WHAT TO DO IN AN ATTACK

1. Apply hot-water bottles or hot moist compresses to the abdomen to relieve pain.
2. Frequent rectal injections may afford relief.
3. If the patient is a baby, stop milk and give only boiled water for a day or two.
4. If an adult, keep him on a milk diet until the symptoms disappear.

SUMMER indiscretions in eating and drinking are responsible for lots of trouble. One such disturbance is inflammation of the lining membrane of the intestines, a condition called "enteritis." Any part, or all parts, of the intestinal tract may be involved. The chief symptom of this trouble is diarrhea.

Even the mental condition has its effect on the bowel action. The muscular contractions of the walls of the intestines are given the name "peristalsis." Both secretion and peristalsis may be increased by fright or worry. The result is nervous diarrhea.

The first indication of trouble is "stomach-ache," or pain in the bowels. This may be colicky in character, coming and going, or it may be cutting, indeed quite knife-like.

In acute cases there may be fever, loss of appetite, and intense thirst. If long continued, there is great prostration and real illness. In chronic diarrhea there may be loss of flesh and interference with the general health.

In infants and young children the cause is found usually in the quality of the milk. In older children, ice-cream, iced lemonade, or "soda-pop," or over-indulgence in candy or

pastry, may be responsible. In adults the cause is found in indiscretion in diet, such as excessive indulgence in ice-cream or ice-water. For all persons, bad meat, uncleanly food, contaminated food handlers, may be responsible for the attack.

If the disease does not yield in a day or two, there should be recourse to the physician. It is so easy to overlook typhoid fever or some other serious difficulty which may begin in the same way, that no chances should be taken.

If diarrhea appears in a child, the milk should be stopped at once. An adult should change from solid food to a milk diet.

Many adults suffer from chronic diarrhea or from frequent attacks of enteritis. In such cases there is some underlying cause that must be found by the doctor.

The baby must be given particular care, especially in the summer season. Fresh air—all the time by ventilation and every day by out-of-door life—is most important. Sunlight at all seasons is vital.

All the water given the child should be boiled.

If the baby is fed from a bottle, it must be from a sterilized bottle equipped with a sterilized nipple.

I have said the milk should be stopped at once if diarrhea occurs in a child. Many mothers, especially new mothers, are so fearful that the child will starve to death, that this advice seems cruel. It is far better, however, to give the child nothing but water for a day or two. So long as the temperature continues, your doctor will probably advise against food, and it is good advice.

The colic may be relieved by hot, moist compresses applied to the abdomen, by a hot-water bottle, or a hot tub bath. Frequent enemas will help.

(See also *Constipation.*)

DISLOCATIONS

WHAT TO DO

1. If a doctor is within reach, apply to him.
2. Until the doctor comes, place the parts in as comfortable a position as possible and apply cold water.
3. In the absence of a doctor, act as recorded in the further advices of this chapter.
4. After replacement, the part must be strapped or held in a sling till the soreness disappears.

MOST of our bones are jointed in such a way that movement is possible wherever two bones come together. Very free movement is found in some joints. Nature has shown great ingenuity in giving freedom of motion, with security from displacement of one or both bones. To guard against trouble in the joints, ligaments made of tough but flexible material are applied in such a way that they serve as very perfect hinges.

A displacement of the bone and its partial or complete escape from the enclosure at the joint is called a dislocation.

There can be no original dislocation without tearing of one or more of the ligaments. On this account, an accident of this sort is always a painful thing. Pain is the first sign of trouble.

There are certain other symptoms which show that dislocation has taken place. For instance, the normal movement is impaired. Either the usual freedom of movement is reduced, or the joint is almost fixed.

The next sign is deformity. The ordinary appearance of the joint is changed. When you compare it with the corresponding joint on the other side of the body, it will be seen that something has gone wrong.

The sooner a dislocated joint is seen by a doctor, the easier will it be for him to restore the bone to place. After fluid has escaped into the tissues and swelling has begun, replacement is more difficult.

On general principles it is unwise for laymen to attempt the repair of a dislocated joint. Usually it is better to apply cold water and wait for the doctor. The parts should be placed in the most comfortable position which can be found and cold applications continued till the doctor arrives.

The way a dislocated shoulder may be put back in place —or reduced, to use the medical term—is something like this:

The victim lies on his back on the floor, or on the ground. You take off your shoe, sit down beside him, and place your heel in the armpit of the damaged side. Then you pull the arm and press it across the body, using your heel as a fulcrum.

You see this joint is a socket and the head of the bone has slipped out of the cavity. You are trying to pull the bone away from the edge of the crater, permitting it to slip back into place. If you succeed, it will fly back with a snap.

You must not be rough, or exert undue effort. If you overdo, you may break the bone and thus seriously aggravate the trouble.

Dislocation of one of the finger joints is more readily reduced, because you can pull with one hand and manipulate the joint with the other.

One of the rare, but uncomfortable, dislocations involves the lower jaw. Yawning may be overdone and the jaw may slip out of place. In consequence the victim cannot close his mouth.

To reduce it, both thumbs, one on each side, are placed on the back teeth, and the jaws are firmly held with the fingers. Effort is made by pressure downward and then backward, to slip the jaw back into the socket.

If you succeed, the mouth closes with a snap. On this account you must wear thick gloves or wrap each thumb in many rolls of a handkerchief, or you will be badly bitten.

When any dislocation has been overcome, the part must

be put in a sling, or wrapped in such a way as to prevent movement. This is done to permit the torn ligament to heal.

When a joint has once become dislocated, the bone is liable to slip out again on slight provocation. Care must be exercised to prevent recurrence of the trouble.

DROWNING AND ARTIFICIAL RESPIRATION

WHAT TO DO

1. Send for the doctor and a pulmotor.
2. Do not waste time removing clothing.
3. Force the mouth open, wipe out any mucus or saliva in the mouth or throat, and pull the tongue forward with a dry handkerchief.
4. Place the victim face downward on the ground, with a folded coat or any other garment under his stomach. Firmly squeeze the side to expel water. Having done this turn the victim on his back.
5. Kneel at the head of the victim, facing his body and grasping each arm between the wrist and elbow.
6. Carry the arms up and outward till the hands meet over his head, keeping the mouth open and tongue forward.
7. Carry the arms back to the sides of the body, bending the elbows and firmly pressing his arms against the sides of the chest.
8. Repeat this alteration of pressure and relief until natural respiration has been resumed.
9. Then turn the victim on his back, rub briskly, always towards the heart, give stimulants, and, as soon as possible, get him to bed.
10. Cover with hot blankets and surround with hot-water bottles.

"SUSPENDED animation" is a term used to describe that condition where the victim appears to be dead, although the spark of life still lingers.

Perhaps no better example can be mentioned than the profound effects of drowning.

Here is a body from which life seems to have fled. To

all appearances we are gazing at a dead man. Yet the soul can be coaxed back, and once again the man may function as a living being.

In drowning, before death actually takes place, there is a brief suspension of animation, and, if treatment is properly and vigorously applied during this period, recovery is almost certain.

At the first news of a drowning send for a doctor and a pulmotor. You must not trust to your own efforts, and should make use of them only until a more experienced person arrives on the scene.

As soon as the body is removed from the water, force the mouth open, wipe out any mucus or saliva found in the mouth and throat, and pull the tongue forward. For this purpose a dry handkerchief may be used.

Next place the victim on the ground, face down, with a roll of clothing, a block of wood, or some other substantial object under the stomach. Then, with firm pressure on the sides of the chest, squeeze the ribs.

This procedure is intended to force out any water which has found its way into the throat and lungs. You will understand, therefore, why it is important to have the head, neck and upper part of the chest lower than the bottom of the lungs.

Having drained the air passages, turn the victim on his back and begin applying artificial respiration.

In suspended animation, whether from drowning, from suffocation from gases, or from electrical shock, the breathing muscles fail to act. To restore life the lungs must be made to work, and since this is accomplished by outside help the act is called artificial breathing, or artificial respiration, merely another name for the same thing.

You must kneel at the head of the victim, take hold of his arms between the wrist and the elbow, and carry them out and upward until the hands meet above his head. At the same time the mouth of the unconscious man is kept open and the tongue pulled forward.

If you will put your own body and arms in this position,

you will find your chest expanded and filled with air. This is exactly what you are trying to do for the drowned man.

Hold the arms here while you slowly count two. Then carry the arms back, bending the elbows of the victim, and firmly press his arms against the sides of the chest.

In this way you squeeze the air out and empty the lungs. Hold this position while you slowly count two.

Then repeat the movement, trying to make a complete circuit twelve to fourteen times per minute. Since you are sure to be nervous and inclined to go too fast, have somebody time your actions by the watch.

Harsh handling must be avoided. Rolling over a barrel is too crude and rough a thing to do. The gentle method here described is much to be preferred.

Bear in mind that the purpose of your treatment is to get air into the lungs. You must be sure the mouth is free from mud and weeds and that no false teeth are there to obstruct breathing. The tongue should be well forward.

Don't give up. Keep at your efforts for an hour or more. There is no greater satisfaction than to hear that first voluntary gasp for air. You will be amazed at your exaltation and feel rewarded for your good work.

(See also *Asphyxia, or Strangulation.*)

EAR AND NOSE, INSECTS AND FOREIGN BODIES IN THE

WHAT TO DO

For an insect in the ear

1. Pour sweet oil, sewing-machine oil, olive oil, or any other oil freely into the ear and let it remain for a few minutes.
2. Or use the vapor of chloroform to kill the insect. Place a piece of cotton saturated with chloroform in the bowl of a pipe, and with the mouth over the bowl force the vapor through the pipe-stem to the ear of the victim.
3. After using the oil or the chloroform, irrigate the ear gently, using a fountain syringe full of warm water, placed low, so that the stream of water will be steady, but not strong.

For a foreign body in the ear or the nose

1. Dip a small camel's-hair brush or a cotton string in collodion, or glue. Apply the sticky object to the hard body in the ear or nose, and let it adhere. When the sticky substance has had time to dry, pull gently and the foreign body can generally be removed.
2. Never use force.
3. If the object cannot be removed by gentle means, send for the doctor.

For a foreign body in the nose

1. Pass the blunt end of a loop of thin wire up the nose and behind the substance, and gently draw it forward.

CHILDREN are given to using the nose and ears as places in which to hide all sorts of things. Beans, peas, peb-

bles, cherry stones, shot, buttons, pieces of wood, and lots of other objects find their way to these cavities.

Without human assistance such accidents could never happen. But there are unwelcome visitors which gain admission to the ear canal without the coöperation of the victim.

Nothing is more disagreeable than the symptoms produced by an insect in the ear. Every movement gives rise to noises which are almost intolerable.

If the insect succeeds in crawling down to the drum membrane, so that it actually has contact with that delicate structure, the symptoms are violent and almost maddening. Not only is there loud noise, but there may be severe pains, headaches, vomiting, and even convulsions.

I have discovered in the ear and removed bedbugs, fleas, beetles, spiders, cockroaches, flies, mosquitoes, and gnats. Sometimes there will be two or three varieties of insect in the ear.

Nature has provided a means of guarding against the entrance or, at least, the continued welfare of the insect. There is a sticky, highly odorous substance in the outer part of the canal which entangles the feet and wings of the visitor. This is one of the chief uses of the ear-wax.

In advanced life, and in early life, too, for an occasional person, there may be an entire absence of ear-wax. Then the insect has a better chance.

Sometimes it is very small, microscopic indeed. In spite of its tiny size, the insect may be an aggressive beast and raise a lot of trouble.

Occasionally we see a child suffering from chronic discharge from the ear or the nose. If this condition is neglected, the ear canal or nasal passage may become a very offensive region. Cases have been recorded of the hatching out in the nose or ears thus affected, of the larva of bluebottle flies. The maggots cause pain and great misery.

Insects are quickly killed by instillation of oil or glycerine. Sweet oil, sewing-machine oil, olive oil, corn oil, or any other kind of oil will do the work. Then the ear should be syringed out with quantities of warm water.

Another way to kill insects in the ear, but not in the nose, is by the vapor of chloroform. Place in the bowl of a pipe a piece of cotton saturated with the drug. With the mouth over the bowl force the vapor through the pipe-stem to the ear of the victim.

The best way to irrigate the ear is to employ the fountain syringe. In using the syringe great care must be exercised to avoid undue force. By keeping the bag low there will be a steady flow of water without the danger which comes from a powerful stream. Too great force will be followed by dizziness and even complete loss of consciousness in a faint.

Water causes vegetable substance, like wood, beans, and peas to soften and swell. Unless very lightly placed, so the foreign body will wash out at once, water should not be used. Instead, you may use what I call the "agglutinative method" of removal.

Dip a camel's-hair brush, or cotton string, in collodion or glue. Apply this sticky thing to the glass bead, or other offending substance, and permit it to dry and adhere to it. Then, by gently pulling, the foreign body can be removed. Sometimes adhesive plaster or pine-pitch can be used in a similar way. This method may be used either for foreign bodies in the ear, or in the nose.

Ordinarily gentle syringing will wash out from the ear the foreign body. Have the head held to one side with the irritated ear directed downwards.

If you have an obedient patient, a foreign body may be extracted from the nose by passing the blunt end of a loop of thin wire up the nose and behind the offending substance. Making gentle movements, out it comes.

Never use force. Remember there is no occasion for hurry. No harm can result from a few hours' or a few days' presence of the foreign body.

EARACHE

WHAT TO DO IN AN ATTACK

1. At the first twinges of pain apply a hot-water bottle, a hot-salt bag, or a hot plate to the ear.
2. If the pain increases, mix one part of carbolic acid with seven parts of glycerine and drop a few drops into the ear.
3. Vapor of chloroform may be found effective in relieving the pain. Place a bit of cotton in the bowl of a pipe, saturate it with chloroform, and with your mouth over the bowl, force the vapor through the pipe-stem into the ear of the victim.
4. In the absence of drugs, gently pour a little warm water into the ear canal, from a spoon, or use a fountain syringe raised just above the level of the ear.
5. Do not use oils, as these interfere with surgical measures, should the latter be necessary.
6. Consult the doctor.

THERE is no worse pain than the agony of earache. When I see so many children and young people, too, suffering from earache, I feel that those few individuals who escape it are fortunate indeed.

I can recall having but one single attack. Visiting my grandmother, the joy of it all was turned into misery, and I begged to be taken home to my mother. Children have but one thought when they are in pain—home and mother.

The ear is so close to the brain that a genuine earache seems to be something within the brain itself. It is knife-like and terribly prostrating. Your courage oozes rapidly.

The ear is divided into three parts. The outside auricle and the canal leading to the ear-drum constitute the external ear. Carved out of the bone is a space occupied by the endings of the nerves of hearing. This is called the internal ear.

Between the ear-drum and the structures protecting the internal ear is a cavity, known as the middle ear. This communicates with the nose by means of a narrow canal, called the Eustachian tube.

One purpose of this canal is to supply air to the middle ear—to ventilate it, as it were. Another purpose is to drain from the middle ear any fluid which may accumulate there.

The lining of the nose is known as the mucous membrane. This membrane extends up the Eustachian tube and furnishes a delicate lining for the middle ear. It covers the tiny bones of the ear and furnishes the inner layer of the ear drums.

All the causes which set up inflammation in the nose are capable of extending to the Eustachian tube and up that canal to the middle ear. Catching cold, the irritation of dust and smoke, the pus conditions following germ infection —all these may inflame the lining of the Eustachian canal and of the middle ear, too.

When mucous membranes become inflamed they begin to swell and soon they secrete excessive quantities of mucus and serous fluid.

You can see what will happen when these changes attack the nose, the Eustachian canal, and the middle ear. There may be so much swelling that the Eustachian tube swells shut, and then the drainage and ventilation are shut off from the ear. The fluid continues to flow and pretty soon there is trouble because of the dammed-up secretion.

Pressure of the fluid on the delicate tissues causes pain, sleeplessness, restlessness, and even high fever. When all these things occur there is a bad earache.

Some persons suffer from earache much more commonly than others. If a child has enlarged tonsils and adenoids, he is particularly liable to attacks of earache. The diseased and thickened tissues at the mouth of the Eustachian tube interfere with free ventilation and drainage. Such persons are more likely to have colds, and a slight cold will complete the closure of a Eustachian tube already reduced in its caliber by the chronically swollen adenoid tissues.

To prevent earache and deafness the child who has chronic catarrh, adenoids, and diseased tonsils should be given appropriate medical attention. Unless the diseased tissues are gotten rid of there may be, in addition to the earache, serious and permanent impairment of hearing.

Whenever there is chronic inflammation of the nasal mucous membrane, there is a condition favorable to the growth of pus-producing germs. Children affected in this way must be guarded against contact with other children who have hard colds or running ears.

When the first symptoms of ear involvement are observed, the twinges of pain may be relieved by the use of hot applications to the ear and side of the head. The hot-water bag, a hot-salt bag, or a hot plate will do much to promote comfort.

There are solutions which may be warmed and dropped into the ear. The simplest one is a mixture of one part of carbolic acid to seven parts of glycerine.

It is better not to use oils in the ear, because if the earache ends in pus formation, the oil interferes with surgical measures. Other solutions can be washed out, leaving the ear clean and ready for the doctor.

It is a good thing to have in the household a bottle of ear-drops. Especially in young children, a drop or two of warm solution will give immediate relief of pain.

Here are two prescriptions which I have used for years and have given to endless numbers of mothers to soothe the aching ears of little children:

1. Camphor-chloral, five drops; almond oil, twenty-five drops; glycerine, thirty drops. Mix. Warm and drop in the ear as required.

2. Plantago major, four drams; belladonna tincture, fifteen drops; tincture of aconite root, ten drops; Magendie's solution, twenty drops; enough water to make one ounce. Mix. Warm and drop into the ear every five minutes if necessary.

The vapor of chloroform relieves some earaches as if by magic. Place a bit of cotton in the bowl of a pipe. Saturate

it with chloroform. With your mouth over the bowl, force the vapor through the pipe-stem into the ear of the patient.

Tobacco smoke may be used in the same way.

In the absence of any drug, you may apply heat directly to the ear-drums by gently pouring warm water into the ear canal. Do not use force. Pour the liquid from a warm spoon, or use a fountain syringe, raised just above the level of the ear.

If it can be applied, steam may be used instead of water. By attaching a piece of rubber tubing to the radiator valve, the steam may be conducted to the aching ear.

The old-fashioned and reliable household remedy is laudanum and sweet oil, but, as I have said, oil is objectionable. Remember, too, that this local remedy and the others I have told you about are poisons and must be kept from the children.

The last suggestion I can make is to mention warmed, strained honey as an agent for providing heat and comfort to an aching ear.

Your treatment is not complete unless the nose and throat are given appropriate treatment. Tampons of ten per cent solution of argyrol inserted in the nose will assist greatly in relieving the primary cause for the earache.

(See also *Adenoids; Catarrh, Nasal; Cold, Why We Should Not Neglect a Common; Mastoid Disease.*)

ELECTRICAL SHOCK

WHAT TO DO

1. Insulate yourself. To do this, wear rubber boots or stand on a rubber mat, if possible. If these are lacking, stand on a perfectly dry paper, a dry board, or a book. Wear dry gloves and use perfectly dry sticks for lifting the wire.
2. Poke your coat under the wire, so that it can be lifted by the coat, and release the victim.
3. Treat the victim as for drowning: Loosen the clothing, give lots of fresh air, open the mouth and pull the tongue forward, and, if necessary, perform artificial respiration. (See chapter on Drowning, Part I.)

INVENTION and progress are associated always with accidents and disasters. It is rare, indeed, for any great public improvement to be made without the loss of human life. For every death there have been multitudes of lesser calamities.

It took a long time to learn how to handle and safely transmit powerful electric currents. We hear of few accidents nowadays as compared with the serious burns which used to be so common as results of electrical contact.

With the great numbers of high-tension cables, live wires, great motors, and other electrical machinery, it is a wonder more people are not damaged. A dangerous degree of shock and even death may result from such contact.

What would you do if you found a man on the ground in contact with a live wire? There might be smoke and a great display of fire, but, even in their absence, you may be sure a dangerous amount of electricity is passing along the wire or the man would not be in his unconscious condition.

The first thing to do is to get rid of the live wire without

touching it with the hands, or getting its dangerous fluid through the body of the victim. This is a ticklish job. You must not venture to touch the wire until you are "insulated." That is, you must be so protected as to be in no danger of getting the current yourself. If you have not rubber boots or a rubber mat to stand on, use perfectly dry paper, a dry board, or a book. Poke your coat under the wire, so that it can be lifted by the coat and without touching the metal with your hands. Wear gloves, dry ones, and use perfectly dry sticks for all handling. This is particularly important as water is a conductor.

When you have released the victim from contact with the wire, he must be treated as a drowning person would be. (See the chapter on Drowning, Part I.)

Loosen the clothing, give lots of fresh air, open the mouth, and pull the tongue forward. It may be necessary to perform artificial respiration, as in drowning. Keep the body warm.

The effect of lightning is the same as contact with a live wire, such as I have described. The treatment is the same.

EYE, FOREIGN BODY IN THE

WHAT TO DO

1. Rub the *other* eye.
2. If the foreign body does not wash out with the tears, fill a glass even full of clean, preferably boiled, water, have the victim place the face against the top of the cup, with the eye immersed, and wink vigorously.
3. If the object can be seen, remove it with the corner of a clean handkerchief.
4. If unsuccessful in removing it, let the victim see a doctor.

I WISH it were possible to teach every person in the world exactly what should be done about a foreign body in the eye.

For years I have protested against an unfortunate and dangerous practice prevailing in most factories. Everywhere is found a workman who has a peculiar knack of removing foreign bodies from the eye. For this purpose he uses a tooth-pick, a nail, the corner of a not-too-clean handkerchief, a pointed stick, or some other instrument.

This was a habit which could be excused years ago, before we learned the meaning and significance of surgical cleanliness. But it is not to be winked at now that we know the dangers and causes of infection. So tiny a thing as a cinder in the eye may break the surface. The application of an implement of any sort may carry germs to invite serious inflammation, if not the actual loss of the eye.

Some persons have eyes which seem to have a real affinity for dirt. Perhaps you are one such. Big eyes with wide-open lids, eyes which do not close at the least hint of danger —all such eyes pick up cinders, particles of carbon, dust and dirt of every description.

If you leave the eye alone, or practice that good old rule, "rub the other eye," the flow of tears will wash away the offending substance in most cases.

If this does not serve and the foreign body can be seen, it may be brushed away with the corner of a clean handkerchief.

Sometimes it will wash out if you fill a glass even full with clean water. If possible, use boiled water. Clap your face and eye into the water and wink vigorously, fully opening and closing the eye.

Have your doctor show you how to turn the upper lid. It is a simple thing to do and he will gladly teach you. Everybody should know how to do it. It is a common thing to have a tiny object hide itself under the lid, and it may be impossible to remove it without turning the lid.

Never use any kind of a sharp or pointed tool to remove an embedded object. Certainly such an implement, if used, must be surgically clean. There must be sterilization of the instrument or trouble may follow.

Take no chances with your sight. Your eyes are a priceless possession. You should not trust any one to trifle with them.

You go to a lawyer and state your troubles. He tells you he will study the matter, look up the law, and give you an opinion in a week or so. But if something is wrong with your precious body, you entrust its care and treatment to any stranger who may be passing.

That is all wrong. It is a good thing to know all about your body and its ailments, but when you are sick or in serious physical trouble, consult your friend, the doctor.

FAINTING

WHAT TO DO IN AN ATTACK

1. Place the sufferer flat on his back with head slightly lower than feet.
2. Give him all the fresh air possible.
3. If he can swallow, give him a stimulant, such as half a teaspoonful of aromatic spirits of ammonia, in half a glassful of water, pouring a few drops at a time into his mouth.
4. Smelling salts, fanning, bathing the face with cold water, or gently slapping it may be used to stimulate the circulation.

EVERYBODY in the world has been told at least a hundred times what to do for a person in a faint. Yet what happens when somebody topples over? There is a rush to lift the head and shoulders. In kindness of heart everybody strives to be the one person to hold the head of the sufferer.

You know better, but why do you act this way in an emergency?

How can presence of mind be taught? Confidence comes with knowledge. It is a twin of knowledge. If you know all about a subject, you cannot be upset if a sudden call is made on your knowledge. A good driver is never frightened if the horses act up and stand on their hind feet. He knows exactly what to do.

It is to be expected that doctors will know what is required in every sort of emergency. But every layman should know how to act in an event so common as a faint.

Let us see what a faint is. It is due to a failure in the normal action of the heart. Instead of acting as a strong pump, sending the blood in forceful stream to the brain, it

is stilled in its action. It is flabby and weak, barely moving the blood through the vessels.

To be well and strong, to have all the organs function, to have the heart do its work properly, there must be an abundance of blood in the brain. There are brain centers which control the action and direct the movements and functions of the body. Everything stops if the blood supply is shut off and the brain is lacking in the life-giving fluid.

You know how quickly a plant or a spray of flowers will wilt if it is taken from the earth or other supply of water. If the brain is deprived of its necessary fluid—the blood—the body wilts.

The whole secret of life, then, is to keep the brain supplied with blood. Not only life itself, but vigor and normal function demand an unfailing supply of this fluid.

Gravity acts on the fluids of the body exactly as it does on fluids outside the body. Water runs down hill—so does blood.

To keep the functions of the body going there must be blood in the brain. If the heart is too weak to force the blood upward into the brain, gravity must be called on for assistance.

The first thing to do in fainting is to place the sufferer on his back, flat on the floor, or on the bed. If on a couch or bed, raise the end of the bed, so that the head is lower than the feet.

The aim of the treatment is to get the blood into the head. To this end the arms may be raised, so that gravity will assist the cure.

Stimulants should be given. Half a teaspoonful of aromatic spirits of ammonia in half a glassful of water, or any other stimulant, will do good if the patient can swallow. A few drops at a time poured into the mouth will produce favorable results.

Lots of fresh air should be made available. On this account it is well to remove the sufferer from a crowded place and away from the curious who will crowd around.

Smelling-salts may be of some use. I want to say of them,

however, that their daily and hourly use is just as damaging as a similar use of any other stimulant. Temperance is a good thing in the use of smelling-salts.

Fanning, dashing cold water into the face, or bathing it with cold water, and gently slapping the face are useful measures.

The object of all treatment is to improve the circulation and to make the blood return to the brain.

FEET, SORE AND BLISTERED

WHAT TO DO

For blisters

1. Sterilize a needle by passing it through the flame of a match, wipe it off on a clean piece of cotton or gauze, prick the blister open at the edge, and press out the fluid, being careful not to break the skin over the blister.
2. Paint the blister and surrounding parts with three per cent solution of iodine.
3. Cover with a thin pad of gauze and strap this in place with adhesive plaster.

For cracks

1. Swab out the crack or fissure with a three per cent solution of iodine, or a five per cent solution of tannic acid in glycerine, or tincture of benzoin.
2. If these do not give relief, carefully swab into the crack a ten per cent solution of silver nitrate.

For perspiring feet

1. Bathe daily in cold water, rub dry and dust with a powder consisting of equal parts of cornstarch, boracic acid, and stearate of zinc.
2. Rub daily with a solution of ten per cent salicylic acid in alcohol, dry, and apply a ten per cent solution of formalin or enough permanganate of potash crystals dissolved in water to make a wine-red liquid.

BESIDES corns and bunions, there are other causes for aching feet.

New shoes, or tight shoes, or poorly fitting shoes, or stiff and unyielding shoes, are responsible for the formation of blisters. It is not uncommon to have blisters form when an old pair of shoes is exchanged for new ones, especially when

high shoes are discarded for low shoes. If the low shoe slips up and down on the heel, or if it digs into the skin at the top of it, blisters or abrasions will form very quickly. Another common place for blisters is on top of the foot where the bend of the shoe rubs the skin.

Between the toes there may be blisters and in the "web," or the deep angle of the toes, there may be fissures or cracks.

Rubbing the feet too vigorously with a rough towel may hurt the skin.

Standing too long or walking too far may damage the tissues of the feet. Possibly the dye of the stockings or the chemicals used in tanning the leather of the shoes may affect the skin. It is certainly true that stockings which are full of holes, or too tight, may result in harm.

Excessive sweating of the feet softens the skin and leaves it more liable to irritation. Likewise, undue dryness of the skin predisposes to cracking.

Needless to say, the first consideration necessary for healthy and uncomplaining feet is to wear none but properly fitting shoes.

It is unfortunate that comfort and the good of the feet are usually secondary to the "looks" of the shoes and their "style."

The average person has but one pair of "good" shoes at a time. There is no economy in this plan, and it certainly is a mistake so far as the good of the feet is concerned. Nothing can be more restful than changing from damp and hot shoes to a dry and cool pair. Even though they are made on the same last, the fit will vary and the second pair will be comfortable in spots placed under pressure by the first.

When you change your shoes, change your stockings, too. If you are one of the unfortunate persons who suffer from excessive perspiration of the feet, bathe them in cold water daily, dry with a towel, and dust them with a powder consisting of equal parts of cornstarch, boracic acid, and stearate of zinc.

Once a day rub with a solution of ten per cent salicylic acid in alcohol. Immediately after this, having dried the

feet, apply a ten per cent solution of formalin, or one one-thousandth solution of permanganate of potash, which is enough of the crystals dissolved in water to make a wine-red liquid.

When once you have found a make and size of shoe comfortable to your feet, be slow to change to other shapes and makes. If you have tender and easily irritated feet, you must forget the ebbing tides of style.

If a blister forms, clean the foot thoroughly with soap and water. Wash your hands perfectly clean. Sterilize a needle by passing it through the flame of a match, and wipe it off with a piece of clean gauze or cotton. Then prick the blister open at its edge. Carefully press out the fluid, taking care not to break or tear the skin over the blister. Paint the blister and surrounding parts with a two or three per cent solution of iodine. Then cover with a thin pad of gauze and strap it in place with adhesive plaster.

Cracks or fissures between the toes may be swabbed out with iodine. Or a five per cent solution of tannic acid in glycerine, or tincture of benzoin may be applied. If this treatment does not suffice, it may be necessary to use a more active remedy, like silver nitrate in ten or fifteen per cent solution. This is carefully swabbed into the crack.

After this treatment, the fissure must be protected against dirt by covering it with a bit of gauze.

The feet are entitled to more care than the average man gives them. They must be kept clean, dry, and in good condition.

FEVER BLISTERS

WHAT TO DO

1. In the early stage apply alcohol, spirits of camphor, cologne, or other alcoholic lotion.
2. If the blisters continue, apply boracic acid, bicarbonate of soda, zinc oxide, saltpeter, or alum.
3. Avoid touching the blisters with grease or water. Do not handle.

MANY a pretty girl has been humiliated because she had a fever blister. Any sore about the mouth or an eruption anywhere on the face is a source of embarrassment to the victim.

Fever blisters are vesicles or blisters usually located around the mouth. They may appear on the nose or elsewhere on the body. No matter where they are situated, the condition is called herpes.

This condition, while it comes at all ages, is most common in youth. It may accompany indigestion.

You may notice fever blisters about the mouth following a prolonged visit to the dentist. There is more or less unavoidable bruising of the lips in the course of a long dental session. This does not mean infection, although in some cases where the teeth and mouth are in bad condition there is this danger.

It is quite the common thing to have herpes in the course of influenza, pneumonia and other infectious diseases accompanied by high fever. "Cold-sores" are of the same nature, and may follow the common cold.

You will notice discomfort and even pain in the lips or affected part. This continues for several hours, and gradually the sore spot gets red and swollen. Then a few small blisters form on the surface. They are filled with clear fluid.

Pretty soon these blisters may run together. Then the contents become milky. Next they dry up, forming brown or yellow crusts. After a week or so the scab comes off, leaving for a time a red spot. The whole process takes about ten days.

Herpes isn't "catching" or infectious. Some persons seem to be predisposed to the trouble and are apt to have repeated attacks.

A discharging ear sometimes excites a similar condition on the lobe of the ear.

In children it may appear on the cheek. In rare instances it attacks the inside of the mouth, or even the eyes.

There are other attacks of herpes which seem to be a sort of reflex condition from some remote or nervous trouble.

In the beginning of herpes the trouble may be headed off by applying some alcoholic lotion. Pure alcohol, spirits of camphor, borated alcohol, or cologne will serve this purpose.

Failing in your effort to abort the trouble, you should apply a powder of some sort. Boracic acid, bicarbonate of soda, and zinc oxide are useful.

Water and greases are harmful. The part should be kept dry. Saltpeter or alum applied to the sore spot will hasten the cure.

Keep your fingers off the blister. The hands ought never to be applied to the face except when you wash it. Your hands come in contact with dirt, filth, and germs. You cannot avoid picking up material which is capable of poisoning the delicate tissues of the face.

Recurring attacks of herpes about the mouth should excite your suspicion. They may be due to bad teeth, suppurating gums, diseased tonsils, suppuration in the nasal sinuses, or intestinal disturbances. If the fever blisters occur elsewhere and constantly recur, careful search should be made to locate the cause.

FILTH CONDITIONS

(ITCH, "COOTIES" AND HEAD LICE)

WHAT TO DO

For Itch

1. The victim should scrub the skin thoroughly with soap and water.
2. Rub the following preparation well into the affected parts every morning and night for four days: Precipitated sulphur, four drachms; vaseline or lard, four ounces.
3. Follow with a hot bath and clean garments.
4. Destroy the old clothing and bedding, or sterilize them by boiling or by steam.

For "Cooties"

1. Boil, steam, or bake all infected clothing.
2. Apply the above sulphur ointment once or twice.
3. Follow with a hot bath and clean clothing.

For Head Lice

1. Apply equal parts of kerosene and olive oil, and allow to remain on over night. In the morning rinse with hot vinegar and wash thoroughly with hot water and soap.
2. Repeat the treatment if necessary.

WAR-TIME conditions gave many a fastidious American boy a taste of filth and vermin. His female relatives would faint at a recital of his sufferings.

Bad housing, with serious overcrowding, must result in a great increase in the filth conditions.

Whenever a considerable number of the population have

any of these troubles, all the rest of us are in danger. Crowded street-cars, public comfort stations, commercial and professional dealings, elevators, bargain counters, and all the other intimate contacts of life, give opportunity for the transmission of these unpleasant things.

The itch, or scabies, as the doctors call it, is due to a parasite which bores into the skin.

Whenever there is a bend in the body, like the front of the elbow and the back of the knee, on a fold of the skin, or between the fingers, there the parasite makes its attack. Little blisters form and the itching is intense. Consciously or unconsciously the victim scratches and tears the affected parts with his finger-nails. The flesh is torn, the blisters and pus-filled spots increase, and gradually the disease spreads to other parts of the body.

There are a number of remedies for itch, but the chief one is sulphur. Precipitated sulphur, four drachms, to vaseline or lard, four ounces, makes a very satisfactory salve for the desired purpose.

First, the skin is thoroughly cleansed. An abundance of soap and water should be used, and if the skin is not too sore, it should be scrubbed with a hand brush. Then the sulphur preparation is rubbed thoroughly into all the affected parts. This is done morning and evening for at least four days.

After the last application the patient takes a hot bath, using lots of soap and water. Then he dresses in clean underwear and clean outside garments. The old clothing and bedding are destroyed or thoroughly sterilized by boiling or by steam.

"Cooties," or body lice, live in the clothing, especially in the seams of the garments. Chief attention must be given the clothes. These must be boiled, or steamed, or baked until all the offending parasites and their eggs are killed.

After getting rid of the infected clothing, the victim should bathe in an abundance of soap and water. Then he may apply one of several different preparations. The sulphur ointment recommended for the itch is as good as any.

One or two applications followed by a bath and clean clothes will end the trouble.

Head lice, or "pediculosis capitis," as the doctors politely name this variety of animal, is more difficult to remove.

Prepare a mixture of equal parts of sweet oil and ordinary kerosene oil. Saturate the hair and scalp with this mixture. Wrap the greasy head in a cloth and leave it in place all night.

In the morning rinse the hair with hot vinegar. Then wash the head thoroughly with hot water and soap.

If necessary, repeat the treatment. Ordinarily one treatment is sufficient.

If the trouble attacks the hair elsewhere, one part of cocculus indicus, with three parts of water or alcohol, may be applied several times a day.

Let it be remembered that practically all vermin are carriers of disease. Not only are they disagreeable companions, but they are a menace to health.

FITS

WHAT TO DO

1. Loosen the collar and clothing.
2. Protect the victim so that he cannot injure himself.
3. If the attack is known to be epileptic, pry open the mouth and insert a rolled-up handkerchief, stick, or other object between the teeth to prevent tongue-biting.
4. Do not give restoratives, as in fainting.
5. If the attack is hysterical, let the patient alone. Attention will augment the symptoms.
6. For convulsions (not epileptic) in small children, see the chapter on Convulsions in Children, Part I.

THERE are a number of English words we do not like. They are almost as positive in their effects upon the ear as is profanity. One such word is *fit*.

Whether a fit is a mild distortion, or one of those body-twisting, muscle-contracting, facial-distorting convulsions, it is an unhappy thing for victim and onlooker.

There may be frothing at the mouth, struggling, biting of the tongue, screaming, talking or singing. Sometimes there is bending backward of the body, so that it rests on the heels and head. There may be apparent unconsciousness and very faint breathing.

These are among the many symptoms, or groups of symptoms, which are popularly described by the one word fit.

Convulsions, or fit-like attacks, are found in epilepsy, Jacksonian epilepsy, tetany and hysteria. Infants are liable to have convulsions under the conditions which produce chills in grown persons.

If you are at all familiar with the convulsive diseases, and those which have convulsions among their manifestations, you will know at once what ailment you are confronting.

In epilepsy the attack comes on suddenly. With a loud cry the victim falls to the ground and passes at once into the fit. The eyes and head are drawn to one side. The muscles of the chest and abdomen are so rigidly contracted as to interfere seriously with breathing. The teeth close down on the tongue, causing it to bleed, and the corners of the mouth become foam covered.

In Jacksonian or partial epilepsy there are convulsive movements of the muscles of the limbs or face. The twitchings always begin in the same muscle and proceed for some time before consciousness is disturbed, if it is at all.

This is entirely different from true epilepsy where there is always complete and immediate loss of consciousness.

In tetany there are muscular spasms in the hands or feet and more rarely in the face or elsewhere. The constriction may last several days, or it may disappear in a few minutes.

In hysteria, which is most likely to attack young adults, there may be all sorts of nervous symptoms, made worse by expressions of sympathy. If the patient is left alone they disappear, only to begin again when some one approaches.

The treatment of a person in a fit depends on the nature of the attack and its cause. In epilepsy the first thing to do is to pry the mouth open and insert a piece of wood or other solid substance or a rolled-up handkerchief between the teeth, to guard the tongue.

The corset, collar and clothing should be loosened. Then the patient should be so placed and guarded as not to be injured during the convulsive movements.

Hysterical fits are more difficult to treat. Pressure with the thumbs over the bony notches lying under the eyebrows near the nasal ends, will compress the nerve and cause the patient to come out of the fit to scold you for your roughness and rudeness.

Needless to say, the underlying trouble must be removed, and appropriate treatment directed to the cause of the ailment.

(See also *Convulsions in Children; Epilepsy.*)

FOREIGN BODIES IN THE SKIN

(REFERRING PARTICULARLY TO SPLINTERS, FISH-HOOKS, AND PIECES OF METAL)

WHAT TO DO

1. Wash your own hands thoroughly and cleanse the skin of the victim.
2. Apply a seven per cent solution of iodine to the wound and its vicinity.
3. Pass a needle through the flame of a match or other fire and then insert under the end of the splinter. Grasping the splinter between your finger and the needle, pull it out of the flesh. Should the splinter be large, it may be necessary to use a knife-blade, which must be sterilized in a flame and cooled.
4. If a fish-hook enters the flesh, push it forward and out, so that the hook can be filed or cut off, when the shank is easily removed.
5. Wash out the wound, apply a seven per cent solution of iodine, and bandage the part.

SPLINTERS and pieces of metal are constantly wounding the skin and sometimes remaining in the body. What will happen as a result depends on the size of the foreign body and whether or not germs and poisonous materials are carried into the wound.

Nothing is more painful than to have a splinter down under the finger-nail. When this happens, it may break off a fraction of an inch from the end of the nail, making it difficult to remove.

A rusty nail, or other infected thing, may enter the skin, producing a disagreeable wound, as well as giving the possibility of pus or more serious infection.

Every boy has had a fish-hook thrust into his face or

hand. If it goes in past the barb, this accident presents peculiar difficulties. The barb prevents the extraction in the ordinary manner. If taken out backwards, there is serious tearing of the tissues.

In removing a fish-hook it is safer to push the point forward and out through the skin. Then the barbed end can be cut or filed off, making it a simple matter to pull the shank out of the flesh.

In the treatment of splinter wounds pains must be taken to remove the dangers of dirt and germs. To this end, the parts must be thoroughly cleansed with soap and water. Your own hands and nails must be washed and cleaned before undertaking any handling of the wound.

After the injured part is cleansed, apply iodine to the wound and its vicinity. Then it is ready for the removal of the foreign body.

A needle should be passed through the flame of a match or other fire. This kills the germs which otherwise it might carry into the wound. If the splinter is too big to be removed with a needle, a knife-blade must be sterilized with heat and cooled.

The needle or blade is passed under the end of the splinter. The foreign body is grasped between the needle and your finger and pulled out of the skin.

If the splinter is under the finger-nail, it may be necessary to cut the nail carefully, just enough to expose the end of the splinter. Then it can be removed exactly as if it were in the skin.

After the bleeding has stopped, iodine is painted on the parts, and a bandage applied.

The wound should be watched to make sure there is no infection. Should it become pussy or painful, see your doctor at once.

FRACTURE OF THE SKULL

WHAT TO DO

1. If fracture of the skull is suspected, call the doctor at once.
2. Put the patient to bed and keep him quiet.
3. Keep his head raised on several pillows.
4. Apply ice-packs to the head.
5. An operation may be necessary.

WHEN Nature planned the protection of the brain she made every effort to guard it effectually against all conceivable injuries. She enclosed it in a sphere of strong bone. Then, to make assurance doubly sure, she made this bone of two layers.

The result of all these wise precautions is that fracture of the skull and injury of the brain are comparatively rare. It takes a very hard blow or fall to damage these structures.

When the injury is severe enough to break bone, it is usually one layer or table that is fractured.

Contre-coup is a term used to describe a fracture or injury where the force of the injury is applied to one side of the head, and the damage is found on the opposite side. It is similar to that phenomenon occurring when the first of a row of billiard balls is struck, resulting in the last of the line flying away.

This theory was disputed by some eminent surgeons, but the experience of the World War has demonstrated its truth.

Most fractures of the skull are confined to the base, or lower part. The vault, or dome, of the skull is much less likely to break.

The automobile is responsible for a tremendous increase in cases of this form of fracture. This machine travels with such speed that if one is struck, he is hurled to the ground

or pavement with sufficient force to crack or shatter the skull.

After an accident of this sort there is bleeding from the nose and mouth. Blood may run from the ear. Pretty soon the bleeding stops and clear fluid—the brain fluid—flows. The whites of the eyes may be suffused with blood. Paralysis of the facial muscles, or of the eye muscles, may be noted.

About sixty per cent of cases of fracture are quickly fatal. If the victim lives for two days, his chance of ultimate recovery is excellent.

The effects of fracture of the skull depend on the part of the brain damaged and the extent of the injury. Fractures at the base of the skull are more dangerous, because in this part of the brain are many important regions, controlling vital functions of the body.

Following fracture of the skull, the victim may have very slight symptoms and be able to walk home. In other cases there are profound effects: unconsciousness, difficult and noisy breathing, and weak pulse.

Until the doctor comes, the patient should be kept quiet. Ice-packs or cold compresses to the head are useful. Keep the head high by using a couple of pillows.

An operation may be needed to lift the broken bone, but usually the progress is favorable if the first few days are safely passed.

FROST-BITE, OR CHILBLAINS

WHAT TO DO

1. **Paint the chilblains with a solution of iodine crystals, collodion, and ether in the proportion of five grains of the iodine, to an ounce of collodion, and two drachms of ether.**

EVERY mode of life has its joys and its penalties. There is a fascination about the desert with its open spaces and the wonderful colorings. The stars seem nearer and existence is like a dream. But there are vipers and poisonous insects to make life uncertain.

The mountains hold the eye, and to climb them is a privilege. But under that jutting rock may be a den of rattlesnakes.

The city dweller has the advantages of urban life, but he may live in an apartment which is overheated and poorly ventilated. He wears clothing so thin that he is chilled when he goes into the open. As a result, he contracts catarrhal troubles which annoy him for a lifetime.

The resident of a small town, or the rural inhabitant, has the joys of intimate friendships and the association of kindred minds. But there are defects in his manner of living and in his personal habits which are likely to lead to trouble.

Any house heated by stoves is sure to have cold floors. Having lived in the country and in a small town, I know exactly what it means to go into the kitchen in the morning to build a fire in the cook-stove, preparatory to breakfast. Your breath makes a vapor as dense as the smoke which soon curls up the chimney. Your fingers tingle and your feet are like ice because the floor is like ice.

Even when the room is comfortably warmed by the general heat of the fire, the floor remains cold. The underlying

basement is cold. More than likely the kitchen is a "lean-to," without basement, and possibly with scant foundation, leaving the space under the kitchen to be swept by the icy blasts of winter.

What happens to the poor housewife? She develops chilblains. Her heels and the sides of her feet are "frosted," and for the rest of the winter she must endure the torture of this miserable ailment.

The farm-hand who wears heavy woolen socks and boots which are too snug in their fit suffers from sweating feet, subsequent chilling, and the natural effects of the impaired circulation caused by the tight boots.

Policemen, stone masons, motormen, and all others who are exposed to inclement and chilling weather are in danger of developing frost-bite.

It is important to protect the feet by proper shoes and stockings. These should be suited to the occasion, because sweating feet and damp stockings are factors in the development of chilblains. Dress according to necessity.

When you get home with thoroughly chilled feet, you probably stand over a hot register or stick your feet in the oven. This is not the thing to do. You should take off your shoes and stockings, put your feet in cold water, and then rub them with a coarse towel. This treatment will restore the circulation in the frosted tissues and spare you months of misery from chilblains.

If chilblains have actually developed, here is a formula which will give you great relief:

Iodine crystals, five grains; collodion, one ounce; ether, two drachms. Paint this on the chilblains every day. This will stop the itching and protect the skin.

GUNSHOT WOUNDS

WHAT TO DO

1. Call the doctor.
2. Wash your own hands with soap and water, clean your finger-nails, and wash your hands again.
3. Have the water and all implements to be used well boiled and the dressing surgically clean.
4. Control bleeding. (For directions see chapter on Bleeding, or Hemorrhage, Part I.)
5. Apply a seven per cent solution of iodine to the wound to overcome any accidental germ infection.
6. Keep the victim quiet in bed, surround him with hot-water bottles or hot bricks, taking care not to burn the skin, and cover him with blankets. If hot-water bottles or bricks are not at hand, ears of field corn dropped in hot water and wrapped in squares of cloth may be used instead.
7. Make no effort to remove the bullet or to probe the wound. Leave that to the doctor.

EVERY deer-hunting season we are shocked by the frequent reports of accidental shootings. Shot-guns, pistols, rifles, and toy guns are responsible for daily casualties.

What happens to the body if it is struck by the discharge of a firearm depends on the size of the gun and the distance from the injured person. The shape of the missile and the structures involved are other factors determining the seriousness of the accident.

If the injury is caused by a single ball and it passes through the body or part, the wound of entrance will be smaller than the wound of exit. Sometimes a bone will deflect the bullet and cause it to leave the body at some point out of the line of fire.

Naturally the charge from a shot-gun will cause more

contusion and tearing of the tissues than a single bullet will produce. Such a wound is likely to contain clothing and perhaps some of the wadding of the gun.

In an accident of this sort, you should interfere with the wound as little as safety permits. The first thing to do is to stop the bleeding. Firm pressure with gauze or clean linen will usually control the hemorrhage. If it does not, a tourniquet may be applied. A handkerchief knotted around the limb, or a piece of cord or rope tied about it, can be tightened by twisting it with a stick.

You must bear in mind how essential it is to keep the wound clean. I refer to surgical cleanliness. Your hands must be thoroughly washed with soap and water. Then the finger-nails should be cleaned, and the hands washed again.

The dressings—gauze, cotton, and bandage—must be scrupulously clean. The fluids used must be boiled and cooled. The dishes and implements must be boiled and cooled.

(See also *Bleeding, or Hemorrhage; Tetanus.*)

HEAD, PAIN IN THE

WHAT TO DO IN AN ATTACK

1. Clear the bowels by a rectal injection of warm, soapy water, or a dose of salts.
2. If pain is severe, put the sufferer to bed in a darkened room.
3. A mild mustard plaster to the back of the neck may help.
4. Cold compresses to the head are often soothing.

HEADACHE is the common name for pain in the head. It should be studied like any other pain. It is not so easy to determine the cause of this particular pain, because the cause may be a distant one. It is hardly ever due to any trouble in the head itself.

Nine times out of ten you will find your headache is due to stomach or intestinal trouble. Indigestion, overeating, and food poisoning are the most common causes for headache.

Late hours, loss of sleep, lack of ventilation, excessive smoking, overuse of the eyes by reading, or at the theater or movie, worry—all of these are factors.

Frequently, constipation is present. The body is not eliminating its waste products. The poisons are being absorbed, and the headache is merely a symptom of their toxic effects.

What shall be done to stop the pain? The common thing is to take some headache powder or wafer. The frequent employment of such drugs is dangerous. If you feel you must take something, it is better to take a dose of salts, or some other rapidly acting remedy, to give speedy relief from the effects of the constipation. A rectal injection will accomplish the same result in many instances.

These suggestions may give you immediate relief, but you must not forget that by getting rid of the headache you have not cured the real trouble. If this symptom occurs repeatedly, there is something wrong with your bodily functions. By proper eating, regular hours, plenty of sleep, and ventilation, the body will probably return to normal.

Do not neglect to regard the kind warning of Mother Nature. She sends you pain to let you know you are violating the rules of life.

(See also *Constipation; Headaches, Causes and Kinds of; Indigestion.*)

HEARTBURN, OR HYPERACIDITY

WHAT TO DO IN AN ATTACK

1. Give one-fourth of a teaspoonful of the following preparation in one-third of a glass of water: Bismuth subcarbonate, one ounce; magnesium oxide, one-half ounce; bicarbonate of soda, one-half ounce. Or take a teaspoonful of baking soda.
2. If constipated, give a rectal injection of warm, soapy water.
3. Have the sufferer try to relax the muscles of the body and remain quiet.
4. Have the sufferer go at least four hours without food.

HEARTBURN is the name given the burning sensation in the stomach and the gulping up of food and gas that comes on an hour after eating.

These symptoms are signs of indigestion. They do not necessarily indicate serious disease. Indeed, they may show nothing more than undue sensitiveness of the lining membrane of the stomach. This portion of the anatomy is just like every other part of the body. It may get sore and tender and irritable because you have abused yourself by late hours, overeating or drinking, overwork, loss of sleep, worry, or bolting of food.

These nerves of ours get on edge if we neglect to care for them. When once they are upset, there is no knowing where the symptoms will strike. The lining of the stomach has its network of nerves and blood-vessels. When this structure is disturbed, then heartburn may be expected as one of the forms of Nature's protest.

When your digestion fails, no matter how little, take care to correct your wrong habits. Too often such trouble indicates neglect.

Of course, heartburn may be the sign of real hyperacidity, due to habitually wrong eating or to constipation. Certain foods do not agree, and their use is followed by gas formation and belching.

More than half the population suffers from chronic constipation. Unless the bowels function promptly and uninterruptedly, there is sure to be excessive acidity of the secretions, indigestion, and sleeplessness.

Perhaps the chief cause of heartburn is the stomach disturbance due to imperfect or delayed intestinal action. To have a movement daily proves nothing. It may mean the evacuation of the waste of food eaten several days before. Unless there is prompt and regular action, the body is sure to suffer. Heartburn is a certain sign of some physical failure, and this particular symptom is very likely to be a prominent feature of the breakdown.

Carelessness in diet is fundamental to stomach disturbances. There is amazing ignorance on the part of thousands about how and what to eat. Too many schools teach everything except how to live. Nothing is more vital than knowledge of food values, food combinations, food incompatibilities, and the proper preparation of food.

Appetite is a terrible master, and heartburn is Nature's gentle rebuke. Nature will bear with you for a time, doing nothing worse than giving you this little pinch. But watch out! Kidney disease, ulcer of the stomach, and even worse ailments may be waiting you. Therefore, remove the causes of your heartburn and bring your body back to health and vigor. Chronic constipation is commonly present. Overcome this by following the instructions given in the chapter on Constipation, Part II.

Take one-fourth of a teaspoonful of this preparation in a third of a glass of water three hours after each meal: Bismuth subcarbonate, one ounce; magnesium oxide, one-half ounce; bicarbonate of soda, one-half ounce. Eat slowly and chew your food well.

It is most important that your diet be rearranged. Here is a list of foods that may and may not be taken in this

condition. Foods that may be taken: light vegetable broths and purées of spinach, asparagus, carrots, green peas and potato; raw oysters, soft portion only; fresh fish of the whiter kinds, boiled or broiled with sweet butter or cream, but with no rich sauces; beef, chopped or scraped and lightly cooked, or freshly stewed; broiled beefsteak; rare veal; lamb; chicken, broiled or roasted or freshly stewed and never overdone (all these meats cold or in the form of jelly); ham, slightly cooked; soft-boiled, poached, scrambled eggs or omelet; toast, zwieback, crackers, graham bread, oatmeal as light porridge or gruel, or a broth; fresh spinach, asparagus, peas, carrots, mashed potato—in some cases only as purées, well-cooked, mashed or strained with milk or cream, olive oil or fresh butter added if agreeable; junket, egg junket, well-cooked rice and milk pudding (with very little sugar), custards with sugar, baked apples, and stewed fruits, if agreeable, and sometimes Dutch or Swiss cheese; milk, plain or peptonized or flavored with tea, or very weak tea or coffee once a day; Apollinaris, Vichy, Seltzer, pure water, buttermilk, Bulgarian sour milk, whey, and light cocoa.

Foods that must not be taken: rich soups or chowders; stews or hashes with rich gravies; fried foods; pickled, corned, or cured meats (except ham as above); salted, smoked or preserved fish, or fatty fish of any kind; rich, heavy cheese, pastry, cakes, pies, candies, ice-cream, nuts, acid fruits, spices, condiments, ice-water, malt spirituous liquors.

(See also *Constipation; Indigestion.*)

HICCOUGH

WHAT TO DO IN AN ATTACK

1. Let the sufferer sip a little cold water, or swallow a bit of ice, or hold the breath for a few moments.
2. If these measures fail, he may lie down on the back, draw up the knees enough to relax the abdominal walls, and have somebody press the fingers into his muscles just below the ribs, pressing inward and upward.
3. If the symptom persists, give an emetic of one teaspoonful of mustard flour, or two teaspoonfuls of salt, to a pint of tepid water.
4. In a child, hot moist applications over the stomach will usually stop the attack.
5. In an infant, change the position and use gentle pressure or massage over the stomach.

LOTS of folks are susceptible to hiccough. Eating too much or too rapidly will bring it on. Drinking a large amount of water and gulping it down may cause an attack.

If you are the subject of frequent attacks of this annoying symptom, you should seek out the reason. It may be Nature's protest against the habit of bolting your food and gulping your drinks. Every child should be taught from his earliest appearance at the table that hasty eating is a crime against health.

For the acute attack sip a little cold water. Sometimes a swallow of water or swallowing a bit of ice will give immediate relief. Holding the breath will stop many cases. Catching the tongue with a towel and pulling it outward may stop others.

Pressure on the diaphragm is almost always successful. Let the victim lie on his back and draw up the knees enough to relax the abdominal walls. Then press your fingers into

his muscles just below the ribs. On deep pressure inward and upward, holding the fingers firmly against the ribs, the spasm will usually disappear.

If the symptom persists in spite of every effort, the victim may be given an emetic. Emptying the stomach is very likely to stop the trouble at once.

In an infant, change of position may stop the hiccough. Gentle pressure over the stomach or massage may cause expulsion of the swallowed air and thus give relief.

Hot fomentations over the stomach and watchfulness of the bowel movements, to make sure they are regular and ample, will correct the trouble in a child.

Certain drugs are used to control persistent hiccoughing. If the simple measures recommended do not relieve, then your physician will prescribe for you. Remedies known as "anti-spasmodic" may be necessary.

Bear in mind that hiccough is not a disease. It is merely a symptom, but it is audible evidence of some indiscretion on your part. You are eating too fast, too much, or the wrong sort of food. Analyze your eating habits and thus discover the cause of a symptom, painful to you and annoying to others.

(See also *Heartburn; Indigestion.*)

HOARSENESS, OR LARYNGITIS

WHAT TO DO IN AN ATTACK

1. Give a tablespoonful of castor oil or a rectal injection of hot water.
2. Put the sufferer to bed with the windows open.
3. Have him gargle with hot water, or spray the throat with hot boracic acid solution, or with a teaspoonful of bicarbonate of soda to half a pint of water.
4. If the condition does not respond quickly, consult the doctor.

BELOW the tonsils, between the back of the mouth and the bronchial tubes, is a part of the breathing apparatus called the larynx. On the outside of the throat is a prominence, very large in some persons, and often referred to as "Adam's apple." This is made of plates of gristle, or cartilage, and is the front of the voice box. Stretched across the inside of this hollow space are the vocal cords. All these structures and parts make up the larynx.

Like all other divisions of the breathing machinery, the larynx is lined and covered in its every part by very thin and delicate tissue, the mucous membrane. Like mucous membrane elsewhere in the body, the lining of the larynx may become inflamed. When it becomes diseased the condition is called laryngitis.

Just what happens in laryngitis depends upon what parts of the larynx are involved and the severity of the inflammation.

The first symptom is hoarseness. It hurts to talk. There may be some aching and feeling of discomfort in the throat.

Whenever there is inflammation in any part of the throat —tonsils, pharynx, or larynx—there is a constant inclination

to swallow. It may hurt, but like the impulse to stick the tongue in the hole from which a tooth has been pulled, the temptation to swallow is difficult to resist.

In the acute cases there may be some fever, increased heart action, headache, and general discomfort.

In the chronic forms there is always a change in the voice. It may be simple hoarseness, or complete loss of the power to speak. Considerable mucus is coughed up, and possibly some blood. Coughing at times is a prominent symptom.

Certain callings demand excessive use of the voice. Hucksters, auctioneers, orators, singers, preachers, teachers, and salesmen are particularly prone to laryngitis. It is not so much prolonged use of the voice as it is improper use which results in laryngeal congestion and inflammation. One of the great virtues of vocal training is that it teaches the right uses of the vocal organs. The trained voice rarely suffers from prolonged use.

Extension of a catarrhal inflammation from the nose and upper part of the throat may account for the laryngitis. You know the mucous membrane, beginning in the nose, passes down over the pharynx, through the larynx, into the bronchial tubes. There is no arbitrary division, marking the end of one organ and the beginning of the next. It is like a one-piece garment.

If you have neglected nasal catarrh, you may get catarrh of the middle ear, or laryngitis. The disease process simply spreads and extends. This is especially true if your general health is none too good.

Being in a dusty atmosphere, too long in bad air, breathing in great quantities of tobacco smoke, or drinking alcoholic beverages to excess may excite the trouble. Constipation and indigestion are important factors.

Needless to say, recurring attacks of laryngitis should lead you to a study of your habits, of your voice methods, and of your general health.

In an acute attack open the windows and go to bed. Keep warm. Open the bowels. Gargle the throat with hot water, if it is not too sore. If there is much discomfort,

spray the throat with hot boracic solution or some alkaline solution, as a teaspoonful of soda to half a pint of water.

Steam inhalations are useful. If the trouble does not respond speedily, you should consult your doctor.

(See also *Catarrh, Nasal; Cold, Why We Should Not Neglect a Common; Constipation; Indigestion; Sore Throat; Tonsils, Enlarged.*)

INDIGESTION, OR DYSPEPSIA

WHAT TO DO IN AN ATTACK

1. Give a teaspoonful of bicarbonate of soda to half a glassful of water.
2. Put the sufferer to bed and keep him quiet.
3. Apply hot-water bottles to the feet and the abdomen.
4. Have him refrain from all food, particularly milk, for several hours after the symptoms have disappeared.
5. If the attack continues, give a rectal injection of warm, soapy water.
6. If attacks recur frequently, consult the doctor.

PROBABLY the most common disease of the human family is indigestion. Indigestion and dyspepsia are names given to a group of well-known symptoms: headache, pain in the stomach, belching of gas, nausea, vomiting, and more or less fever.

Indigestion is caused by your own faulty method of feeding—taking the wrong food or too much food—or it is secondary to some disease of the heart, liver, nervous system, kidneys, or intestines. In short, it is due to a multitude of causes. It is really a symptom, or a group of symptoms, instead of being a true disease.

You will see at once that indigestion cannot be treated in one particular and unvarying manner. There is no "cure-all," or "specific" for dyspepsia. There never can be a "cure" or a serum for its relief. Neither can there be found a vaccine or other preventive agent.

Acidity of the stomach is a pretty constant symptom of indigestion. This can be neutralized, and many of the uncomfortable sensations of indigestion will disappear as a

result. But the underlying cause has not been treated; merely the effect has been controlled by this treatment.

The first rule of treatment in any disease is to remove the cause. As you can imagine, this is not easy to accomplish in indigestion. There is a multitude of possible causes, and some of them are so intangible and elusive that they are hard to locate. In the occasional attacks of indigestion plainly due to indiscretions in eating, your good sense tells you how to avoid the trouble.

Everybody who drives an automobile knows that if you feed too much gasoline it "chokes" the engine, stops the combustion, and slows the engine, or makes it impossible to start the machine. Everybody who ever built a fire in a furnace or in a kitchen range knows that the fire is "put out" if the fire-pot is crowded with coal. The fire cannot burn if it is covered and choked with too much fuel.

The stomach is not unlike the combustion chamber of an engine or the fire-pot of a stove.

If you overload the stomach, you choke the digestive processes.

An automobile won't burn water, and a furnace can't burn stone. Suitable food must be supplied or the fire goes out.

If you fill it with improper and indigestible food, the stomach refuses to act. Too much food and the wrong sort of food are rebelled against by the stomach. These rebellious acts constitute the symptoms of indigestion.

Needless to say, we can carry our comparison too far. The stomach is, in many respects, quite unlike an inanimate automobile or furnace. It is a living thing, possessing blood-vessels, nerves, muscles, glands, and lining membrane.

Even though reasonable quantities of proper foods are fed into the stomach, it may fail to act and present all the symptoms of indigestion. In such a case, it is necessary to learn the causes of your special kind of indigestion and to avoid them.

For the attack itself, refrain from all food until several hours after the disappearance of all the symptoms. Take particular pains to avoid milk.

Empty the stomach and bowels. Take a teaspoonful of bicarbonate of soda in half a glassful of water. If this does not give relief, tepid soda or salt solution—one teaspoonful to a pint of water—or half a teaspoonful of mustard flour to a pint of water makes a good emetic.

Go to bed, keep perfectly quiet, apply a hot-water bottle to the feet and another to the abdomen. Have the room dark and try to drop off to sleep.

If the attacks of indigestion are frequent, overcome the chronic constipation which almost invariably lies at the foundation of the trouble. (See chapter on Constipation, Part II.) Have the urine examined to see if the kidneys are acting properly.

Bear in mind that a distant organ may be the seat of the real disturbance. Eye strain, focal infection from bad teeth, diseased tonsils, or infected nasal sinuses may be the cause.

In general, however, your own bad habits—late hours, excessive smoking, overeating, bad food, or hasty eating—are the real causes. Good resolutions, followed with determination, will cure most cases.

(See also *Constipation; Head, Pain in the; Headaches, Causes and Kinds of; Heartburn; Vomiting, Violent.*)

INTESTINAL OBSTRUCTION

WHAT TO DO IN AN ATTACK

1. Call the doctor at once.
2. Have the sufferer lie down with hips elevated, and give a rectal injection of warm, soapy water. Use large quantities of water, with the fountain syringe raised slightly above the level of the body, so there will be no force.
3. Apply hot fomentations to the abdomen, using a large towel dipped in water as hot as can be borne and changed frequently. A few drops of turpentine may be added to the water. Over the wet towel keep a dry one.

ANYTHING interfering with the normal discharges from the body is sure to produce grave results. Failure of the skin functions, stoppage of the kidney action, and obstruction of the bowels—all these are serious experiences.

Intestinal obstruction may be unsuspected until there comes on an attack of terrific pain. At first there are spasms of pain, occasional, but severe. The paroxysms become more frequent, and it is not long before the pain is continuous.

The pain differs from the agony of appendicitis in that it is in the middle line of the body. In inflammation of the appendix the pain is likely to be on the right side of the abdomen, in the region between the navel and the hip-bone. This is a one-sided pain and much lower down than are the symptoms which are found in intestinal obstruction.

Of course, if the lower bowel—the large intestine—is involved, the pain may be low down, but even then it is usually in the middle line of the body. There is a vulgar

expression which will describe it—"belly ache." But pretty soon it is more than an ache—it becomes excruciating pain.

Complete constipation is to be expected. The water of a rectal injection may return with some fecal matter, but when everything below the obstruction has been removed the water returns clear.

The third symptom is vomiting. The material first expelled is like all vomited matter, but pretty soon it is green with bile. Then comes a fluid brown in color and fecal in odor.

The obstruction dams up the intestinal contents. As they ferment, the gases accumulate and produce increasing distention of the abdomen.

The effects of this trouble on the general symptoms are profound. The face is pinched, the pulse is rapid and faint, and cold sweat bathes the skin. Pretty soon there may be more or less fever and great thirst.

The treatment depends on the origin of the obstruction. The most common cause is impaction of the feces. To get rid of the trouble, do not make use of purgatives or cathartics.

Employ large quantities of warm water, injecting it very slowly into the bowel. Have the patient lie down on his back, elevating the hips. Take great pains to use no force. To this end the fountain syringe should be raised very slightly above the level of the body.

Hot fomentations may be applied to the abdomen. Dip a large towel in water as hot as can be borne. Over this spread a dry towel. Have frequent changes; keep the water hot. A few drops of turpentine added to the water may be helpful.

There is always need of careful medical attention, and even surgical treatment may be required. On this account, there must be no failure to call your doctor at once.

(See also *Cramps*.)

IVY POISON

WHAT TO DO

1. Dip gauze or a clean cloth in a solution of one part of the fluid extract of Grindelia robusta to six parts of water, or in a solution of washing soda, and lay it on the affected part.
2. To relieve the itching, apply a solution of a tablespoonful of hyposulphite of soda to one quart of water.

THERE are a few plants that are poisonous. In our country, North and South, East and West, the most common of these is the so-called poison ivy.

The scientific name is *Rhus toxicodendron.* It is sometimes referred to as poison oak.

This plant may be a little shrub, two or three feet high, or it may stand up to the height of a man's head. When it finds something to lean upon, such as a stone wall or a tree, it grows as a vine. In a few years it will cover to the very top a great dead tree. When left to itself the trunk of the vine may become as thick as your forearm.

No one need be ignorant of the identity of this plant. It has a bright green, smooth, glossy leaf. The leaves appear in groups of three, or, as the botanist would say, they are "trifoliate." You will recognize it immediately and distinguish the poison ivy from all other similar plants, because the stem of the middle leaf is always longer, two or three times longer, than the stems of the two other leaves.

Some persons are very susceptible to the poison of ivy. It seems almost as if the very air blowing across the plant is impregnated with its poison. Especially if he is warm and perspiring, the sensitive person is easily poisoned by the slightest contact.

In a few hours there is redness of the exposed parts, swelling, burning and itching. Little blisters form; they increase in number and size, and may become infected. The discomfort may be very great, and the disease sometimes resembles erysipelas, having fever and prostration. The constitutional symptoms are often surprisingly severe.

If you suspect you have come in contact with poison ivy and, as a matter of fact, always after gathering wild flowers or pushing through the vines and shrubs in wild places, you should wash your hands and face with quantities of soap and water. Alkaline solutions, like a solution of baking soda, borax, or ammonia, may be used.

The best local remedy I know anything about for ivy poisoning is Grindelia robusta. The fluid extract, one part to six parts of water, may be applied. Gauze or cloths dipped in this solution and laid on the part will promote comfort. Sometimes creolin is added to advantage.

Buttermilk and crude petroleum are the local remedies sometimes recommended. For the intense itching, hyposulphite of soda, a tablespoonful to a quart of water, will give relief in many cases. Never use irritating remedies.

Do not fail to take along a bottle of Grindelia and a package of hyposulphite when you pack your bag for a trip to the country.

LOCKJAW, OR TETANUS

WHAT TO DO TO PREVENT AN ATTACK

For a punctured wound where dirt is carried deeply into the tissues

1. Wash your own hands with soap and water.
2. Swab out the wound well with boiled water and sterilized cotton, removing all foreign material. If sterilized cotton or gauze and water are not at hand, use the cleanest water possible and a clean handkerchief.
3. Apply plain tincture of iodine or, preferably, a twenty per cent tincture of iodine.
4. Have the sufferer see the doctor, who will give tetanus antitoxin.
5. If he cannot see the doctor within a few hours after the injury, you should cauterize the wound with pure carbolic acid immediately after cleaning it. Be *extremely careful* not to burn the skin around the wound. As an added protection to the skin, you may smear vaseline around the wound. Take a toothpick or sharply pointed stick, wrap the point with cotton, dip this in pure carbolic acid, wipe off any excess of acid with alcohol, and thrust the point for an instant into the wound.

AS a rule, the first symptoms of lockjaw are met about ten days after the infection. They are almost always stiff neck and difficulty in moving the jaws. The patient may first observe the trouble when at meal-time he finds it difficult to chew his food.

Before these symptoms are noticed, there may be a sensation of chilliness, or the patient may have an old-fashioned shaking chill. Then the muscle difficulty appears and grows gradually worse.

Pretty soon the muscles are so affected that the jaw is tightly closed. For this reason the disease is called lockjaw. The scientific name is tetanus, and it is due to a germ found in dirt. The germ grows in the intestines of sheep, horses, cows, and other animals. Any soil contaminated by such animals may be infected with the germ of tetanus. Should a human being be unfortunate enough to break his skin and at the same time receive into the wound any such inoculated soil, he may become the victim of lockjaw.

Like all communicable diseases, there appear to be certain conditions favorable to the growth of the germ. When these are met, the likelihood of infection is increased. Hot weather is one of these conditions. The reason why lockjaw is so common after Fourth-of-July accidents is because gunpowder explosives result, not only in damaging the body, but also in kicking up so much disturbance in the dirt immediately adjacent that contamination of the wound with soil is almost inevitable. Then, the Fourth coming in hot weather, the conditions are ideal for the development of the germ of lockjaw.

Until the scientific world taught the value of the serum for the prevention of lockjaw, every Fourth of July was followed by dreadful tales of suffering and death from this awful disease. One of the achievements of medicine is the gratifying record of the army surgeons in lessening the otherwise terrifying death rate that must have followed the millions of injuries from shell explosions in the late war. As a matter of fact, so efficacious was this treatment, that the deaths from lockjaw were almost negligible.

All of us must rejoice in this advance, because it saves many lives and because the death is so terrible in its agony. The muscles of the trunk become involved. There are spasms so pronounced that the body bends back upon itself. Sometimes these spasms are so great that the sufferer rests upon his heels and head, the middle of the body is lifted from the bed, and the extremities are drawn almost together. The whole body is rigid, so powerful are the muscular contractions.

At the same time the muscles of the throat contract, as if the neck were fixed in a vise. The victim is unable to speak or to swallow.

It is not pleasant to recount the symptoms of this dreadful disease. If they were inevitable, I should not talk about them. But, I am glad to say, there are ways of escaping lockjaw, even should you be so unfortunate as to be injured under circumstances that would make its onset probable without treatment.

A wound should never be neglected. Every injury where the skin is broken should receive attention. But if you receive a punctured wound, for instance, from driving a nail into the hand, or any sort of an injury where dirt is carried deeply into the tissues, you should give it careful treatment. This is the sort of wound in which the lockjaw germ would thrive.

After cleaning out the wound with sterile water, removing all the foreign material, and drying it, pure carbolic acid should be used. This should be carefully applied, so that the acid cannot run over surrounding parts and make unnecessary burns. The excess of acid may be removed from the implement used to apply it, by alcohol.

Another excellent application is plain tincture of iodine, or, better still, twenty per cent tincture of iodine.

Every household should have its iodine, to apply to cuts and other injuries.

It is never safe to neglect the use of the tetanus antitoxin in Fourth-of-July or other gunpowder accidents. Any doctor will tell you where to get the antitoxin.

LUMBAGO, OR BACKACHE

(KNOWN ALSO AS RHEUMATISM OF THE BACK AND NEURALGIA OF THE BACK)

WHAT TO DO IN AN ATTACK

1. Put the sufferer to bed.
2. Rub capsicum vaseline on the affected region.
3. Apply a towel wrung out of water as hot as can be endured, for fifteen minutes out of every two hours, changing every few minutes. Keep this covered with a dry towel.

WHENEVER we see a man pressing his hands on the small of his back as he struggles to his feet from a sitting position, we suspect he has lumbago.

Muscular rheumatism is liable to attack any of the muscles of the human body. In the small of the back, between the hip-bones and the ribs, is a mass of muscles, the loins. When rheumatism attacks this group we call it lumbago.

Everybody knows how rheumatism acts. It is exactly the same when it takes the form of lumbago. Exposure to wet or cold may produce it. An injury from a fall or a blow, straining the back from lifting, or unusual exercise, sudden chilling when perspiring, or a prolonged draft of cold air on the back, may excite the trouble.

The attack may come on suddenly and be so severe that the victim can hardly turn himself in his bed.

Lumbago is usually unaccompanied with fever or constitutional symptoms. The local symptoms subside in a few days. Recurrences, however, are exceedingly common. The victim of one attack of lumbago is likely to suffer a good many other attacks.

You have not gone to the bottom of your study of lumbago unless you give attention to the general condition of the patient. It is considered nowadays that some sort of infection is responsible for the difficulty.

The teeth must be examined by a competent dentist. If there is suspicion of trouble at the roots, they should be X-rayed. If pyorrhea is present, it must receive attention.

The tonsils sometimes contain pus pockets. The theory of so-called "focal infection" has been overemphasized in some quarters, but it is just as true that its importance is being overlooked by many. On this account, the tonsils and nasal sinuses should be inspected by somebody competent to pass judgment on their condition.

Intestinal indigestion, or sluggish intestinal action, may be responsible for the absorption of toxic substances and the onset of the lumbago. No treatment is complete unless this difficulty is corrected.

The kidneys and skin must be active. Underelimination by these organs may be responsible for the lumbago.

I speak of all these possible causes to enable the sufferer to analyze his own condition. By removing the exciting cause, the lumbago will disappear as by magic.

The pain of the acute attack may be relieved by hot fomentations. Apply a large towel wrung out of water as hot as you can bear. Change this every few minutes, keeping up the treatment fifteen minutes out of every two hours.

Capsicum vaseline rubbed on the back before applying the hot compresses may be helpful. Likewise various forms of electricity have been successfully employed.

The patient should be in bed during the acute attack. A few days of quiet and hot compresses will usually end the trouble, for the time at least. Removal of the underlying cause will bring about a permanent cure.

LUNGS, FOREIGN BODIES IN THE

WHAT TO DO

1. Take the victim to the doctor who, by means of the X-ray, will determine the presence and the place of the foreign body.
2. If it is found to be in the lung, it can be removed by use of the bronchoscope in the hands of a skilled physician.

A STEEL tack or similar object in the lungs would have resulted in death not many years ago. It is different now. Modern invention has been applied to lots of formerly hopeless conditions, and to-day there is every prospect of relief for many of them.

Among the ingenious devices for dealing with such cases is the bronchoscope. This is a delicate, flexible, electric-lighted instrument which can be inserted in the throat and passed down into the windpipe. Through it can be seen the offending substance in the upper part of the lung, and with delicate long-shanked forceps the object can be caught and removed.

The modern instruments of precision have done marvelous things for the human family. For instance, the X-ray is of the greatest value in cases where foreign bodies have been swallowed or thought to have been swallowed. The X-ray pictures will determine the presence of and locate the offending object.

In the terrible fright of the victim of such a mishap, he may have spasms, agonies of pain, vomiting, and other violent symptoms. That these are sometimes caused purely by emotion is shown by a classical case recorded in the medical books.

A man swallowed his false teeth. Jumping from his bed,

he went into contortions because of the pain in his throat and stomach. The family rushed him to the doctor, and everybody was in a hysteria of excitement. About that time a messenger arrived with the pleasing information that the teeth had been found under the bed where the owner had placed them on retiring!

The X-ray settles all these questions. It determines with unfailing accuracy the presence and the place of the foreign body. Then with the bronchoscope, if the object is in the lung, it can be seen, and the skilled doctor can remove it.

Fortunately, such accidents are uncommon. In rare cases only do bad effects follow.

MENSTRUATION, DIFFICULT

(KNOWN ALSO AS DYSMENORRHEA AND PAINFUL PERIODS)

WHAT TO DO IN AN ATTACK

1. Give a tablespoonful of milk of magnesia to open the bowels.
2. If the flow has not started, the sufferer should remain for half an hour in a hot bath, or soak the feet in hot water in which a tablespoonful of mustard has been dissolved.
3. Rub capsicum vaseline over the lower abdomen, or if the pain is very severe a mustard plaster may be applied.
4. Have the patient go to bed and apply hot-water bottles, hot bricks, hot sand-bags, field corn dipped in boiling water and wrapped in cloths, or flannel dipped in hot water, to the abdomen and feet.
5. Give a teaspoonful of viburnum compound in hot water every hour for three or four hours.

THERE is much misinformation as to the causes of difficult menstruation. Most persons believe that a woman must be exceedingly careful of herself at all times. She is advised against physical exertion, running up and down stairs, lifting, and dozens of other things.

To my mind much of this talk is nonsense. If a woman is normal and vigorous, she can do most of the things a man can do. A recent study of this question, made by a group of scientists and teachers, resulted in the conclusion that a girl can do about everything a boy does except play football.

Painful menstruation is apt to be due to local troubles. These should be determined by the family doctor. It is wicked for a woman to suffer for years, when proper attention would remove the cause of her periodical pain.

Taking cold, exposure to cold or wet, unusual mental anxiety, late hours, and dissipation are things which may cause trouble at the menstrual time, particularly if they occur just before the flow is due. Anything interfering with the general health, such as undernourishment, may be productive of such low vitality as to emphasize the painful symptoms of that critical period.

Fresh air, systematic exercise, and especially careful attention to the stomach and intestines, are essential to the proper operation of this function. Plenty of sleep is vitally important.

It is remarkable what favorable results follow the relief of constipation. Many a sufferer from dysmenorrhea has had almost perfect comfort on the removal of the constipation.

At this time I shall not discuss the permanent relief of difficult menstruation. The family doctor will do this after he decides upon the cause. I do wish to advise about measures which will promote the comfort during the attack.

The first thing to do is to take a tablespoonful of milk of magnesia. This will open the bowels.

For the relief of pain, heat is the best local application. If the flow has not started, a half-hour in a tub of hot water will be helpful.

Hot-water bottles, hot bricks, hot sand-bags, field corn dipped in boiling water and wrapped in folds of cloth, or a big piece of flannel dipped in hot water—one of these will provide the heat.

A hot foot-bath, perhaps with the addition of a tablespoonful of mustard, will be helpful.

Sometimes a mustard plaster low down near the spine will help to control the pain. Capsicum vaseline over the lower abdomen is a good application.

Internally, viburnum compound, a teaspoonful in hot water, is a common remedy. This should be repeated every hour till three or four doses have been taken.

NOSEBLEED

WHAT TO DO IN AN ATTACK

1. Have the sufferer sit upright and apply cold water or ice to the nose and face for a few minutes.
2. If bleeding continues, pulverize a piece of alum or tannic acid and let him sniff a very small amount of it up the nose.
3. Adrenalin chloride on a tampon of cotton pushed into the nose will stop nearly any case of nosebleed.
4. Packing the nose with cotton or gauze may be tried.
5. If all these measures fail, send for the doctor.
6. Keep the sufferer as quiet as possible.

ANY sort of bleeding is a thing which must have immediate attention. One of the most common of human emergencies is nosebleed. Everybody should know what to do to stop it.

Some folks have nosebleed every day, every night, or at least on very frequent occasions. They awaken from sleep to find blood pouring from the nose.

Nosebleed may result from injury, from local disease, or from some systemic disturbances.

Certain diseases of the kidneys, liver, lungs, and heart produce congestion and may cause nosebleed. Some acute fevers have bleeding from the nose as one of the symptoms. Measles, influenza, pneumonia, diphtheria, whooping-cough, scarlet fever, and especially typhoid fever are such diseases. Anemia and other ailments where the blood quality is reduced may have nosebleed as one of the complications. At certain periods of life women may have this symptom. High blood pressure is another cause, according to popular belief.

All the things I have enumerated are causes of nosebleed, it must be admitted. But there is a much more common

cause, and I never think of any of these serious factors until I have excluded the one I am about to mention.

Everywhere in America nasal catarrh is extremely common. Our changeable climate and manner of living are responsible for frequent colds. The average person gives no more heed to a cold than he does to the barometer. The effects of one cold have not disappeared entirely until another one is "caught." The result is that the nasal lining, the mucous membrane, is constantly congested.

In consequence of the never-ending congestion, the tissues become thick and inflamed. Degenerative processes set in, and pretty soon tiny ulcers are found. The mucus dries on the ulcerated surface, forming a little scab. This is blown off or picked off and then the surface bleeds. Every time the scab is removed there is an attack of nosebleed. Sneezing loosens the covering and causes bleeding.

Then there are the frequent nosebleeds from accidents.

Most boys like to box. But whether they like it or not, even though they are pretty peaceful chaps, they will get into a "scrap" now and then. The first weapon is the fist, and the most remote outpost of the body is the nose. What happens when an irresistible force strikes an immovable object? In this case it is a "bloody nose."

Grown people have their troubles, too. They may run into trees, open doors, the corner of the book-case, or the wagon tongue. Once in a while the fist is a factor, even in grown people.

Some young children take particular joy in packing things up their noses. Beans, pebbles, corn, and a dozen other things I have removed from the noses of children.

The child may not succeed in getting the thing into the nose, but he may wound the tissues enough to cause furious bleeding. Awkward handling of a table fork, or of a pencil, may produce a puncture of the nasal membrane and be followed by bleeding.

It makes little difference what causes bleeding; when an attack of nosebleed occurs it must be stopped.

Cold water or ice applied to the nose and face will con-

trol a simple case. Do not lean over, because this helps to increase the bleeding. Sit upright and continue the cold application steadily for a few minutes.

There are some medicinal substances which are useful if the bleeding is profuse. In every household there is a chunk of alum. Pulverize a piece of this and sniff it up the nose. Tannic acid may be used in the same manner.

One of the best agents to stop bleeding is adrenalin chloride. Peroxide of hydrogen, too, is helpful. It may be used full strength.

Adrenalin and other like products are such useful things that in the first-aid kit of every household there should be a bottle. A tampon of cotton, wet with adrenalin and pushed into the nose, will immediately stop nine out of ten attacks of nosebleed.

Packing the nose with cotton or gauze will control most all cases.

If these simple measures do not stop the bleeding, call the doctor. With a head mirror and a good light he will locate the bleeding point and apply treatment directly to it.

PARALYSIS, OR APOPLEXY

(KNOWN ALSO AS A STROKE)

WHAT TO DO IN AN ATTACK

1. Send for the doctor at once.
2. Place the sufferer quietly in bed, laying him on one side with his head slightly raised.
3. Loosen his clothing, especially any about the neck.
4. Throw open all the windows in the room.
5. Apply an ice-cap or cold compress to his head and hot-water bottles to his feet.
6. Do not try to make him swallow anything.

WHEN one passes middle age he faces all sorts of bodily dangers. Death armed with a club is waiting round the corner. Just when the blow will fall is the only uncertain thing about the whole miserable business.

This may seem a gloomy thought, but the certainty of the ultimate outcome need not discourage us. The bright lining to the cloud is that good sense and right living will go far towards postponing the unhappy day.

Early death from one of the so-called "natural" causes is almost invariably the fault of the victim or of his ancestors. If early death does not come because of the deliberate misdeeds of his life, it comes as the result of his ignorance of the laws of Nature.

The old maxim, "Ignorance of the law is no excuse," is nowhere more applicable than to the experiences and effects of physical misconduct. One may have the character of an archangel, but if he mistreats his body he must pay the penalty.

I doubt if many persons deliberately and wilfully do those things they ought not to do. My faith in humanity is

such that I prefer to believe ignorance and thoughtlessness are responsible for the bad habits of many evil-doers. The fact is, however, the average person indulges in more than one harmful physical habit.

It is far too common an experience to learn of the unexpected death of some friend or prominent citizen, carried off by apoplexy. So sudden is the attack and so prostrating is it in its immediate effects that this disease has been well named "a stroke."

Apoplexy is due to the rupture or the plugging of a blood-vessel in the brain. In the first case, the blood escapes into the brain tissue. In the second, a clot is formed in the blood-vessel. In either, pressure is placed on important nerve centers, producing unconsciousness and loss of muscular power.

Sometimes such an attack comes without the slightest warning. In other cases it may be preceded by headache, dizziness, and general discomfort. The immediate attack may be ushered in with vomiting, or the patient may fall as if struck on the head.

The breathing is slow and noisy. The face is red or purple. The eyes are congested. The temperature may be unaffected, or it may rise above normal.

On return to consciousness, it will be discovered that one arm, or one leg, or all of one side of the body, is useless. There may be confusion of mind and thickness of tongue. The exact nature of the symptoms will depend, of course, upon the part of the brain involved and the extent of the bleeding.

If the attack does not end in immediate death, or in a fatal issue within a few days, recovery is probable. The future depends upon the original cause of the first attack. The causes of apoplexy are hardening of the arteries, alcoholism, syphilis, vascular tumor, obesity, infectious diseases, and various other conditions. The immediate attack may be brought on by overexertion, violent emotion, acute indigestion, drunkenness, or any condition that drives the blood to the head.

Needless to say, when once one has had an attack of this sort, he dreads a recurrence. He begins to live the sort of life which, if lived from early years, would have insured against the condition.

There is an old proverb which says, "We dig our graves with our teeth." The greatest factors in the production of hardening of the arteries are excessive eating, improper food, and neglect of the digestive tract. By beginning in earliest life to guard the teeth against wrongful use, to keep out of the mouth deleterious articles of food and drink, and to keep the digestive tract in a healthy condition, these three causes of apoplexy need be given no consideration. A clean life avoids the chief remaining causes.

Poise, training in self-control, avoidance of excesses of every sort, and temperance in all things, will create such calmness of mind and spirit as to leave little danger from the immediate causes of ruptured blood-vessels and apoplexy.

A person suspected of being stricken with apoplexy should be placed gently in bed, in a quiet, darkened room. The head should be slightly raised without bending the neck, and the body turned upon the side so that the tongue will not fall back. All clothing should be loosened, especially any about the neck. An ice-cap should be placed on the head, or, if one is not to be had at once, cold-water compresses may be applied instead, and hot-water bottles covered with flannel placed near the feet.

Do not try to make the patient swallow anything. Send for the doctor immediately, and try to keep the sick person as quiet and comfortable as possible until he arrives.

(See also *Bright's Disease; Hardening of the Arteries.*)

PINKEYE AND ACUTE CONJUNCTIVITIS

WHAT TO DO IN AN ATTACK

1. Consult the doctor.
2. Drop three drops of one per cent zinc chloride solution in the eyes every three hours.
3. Do not rub the eyes or touch them with the hands.
4. The sufferer should be careful not to communicate the infection to others.

IN pinkeye, or conjunctivitis, redness of the lids and eye-ball will be noticed at once. In such a case, if the lower lid is pulled gently away from the eye-ball, flakes of mucus are found swimming in the supply of tears. On awaking in the morning the eyelids are glued together by the hardened secretion.

In uncomplicated conjunctivitis there is little or no pain. There may be some smarting and burning, a feeling of heaviness, and possibly slight sensitiveness to light. Bad as the eyes look, there is little suffering.

The degree of pain any inflammation may cause depends to a considerable extent upon the firmness or elasticity of the structure involved. If it is in the covering of a bone, due to a bruise of some sort, there is great pain, because the tissues are unyielding, and, as a result, the sensitive nerves are pinched and utter their protest.

The mucous membrane lining the eyelids and covering the white part of the eyeball is loose and soft. There must be a lot of swelling to take up all the slack, so to speak. Consequently, there is little pain in conjunctivitis.

Such an inflammation of the eye is due to some sort of an infection. There are several germs which may cause it. The rapidity and severity of the inflammation depend upon the form of the germ.

A certain form of conjunctivitis is communicable. This variety is called pinkeye.

Pinkeye appears at certain seasons and may attack every child in the schoolroom. The discharges are left by the hands of the victim upon the door-knobs or the toilet articles. Thence they are taken by the hands of others and, by wiping the eyes, are conveyed to the eye tissues.

If the trouble does not clear up speedily, or if the pain and redness increase, the doctor should be consulted.

Children should be taught to keep their hands from their faces, particularly from their eyes. Rubbing the eyes is a bad practice. If the lids feel irritated, it is probable there is eye strain and the need of glasses. Find the cause of the irritation. Too often children are counted dull and stupid who do not deserve such a description. The whole trouble may be due to poor vision, or the inability to study without pain. Full justice has not been done the child until the eyes are tested.

WHAT TO DO IN AN ATTACK

1. To produce vomiting, give a teaspoonful of mustard flour in a pint of warm water. Or give thirty grains of zinc sulphate or powdered ipecac dissolved in warm water, and repeat in half an hour if the first dose does not produce vomiting. If none of these are at hand, give two teaspoonfuls of table salt in a pint of tepid water.
2. For carbolic acid poisoning, give half an ounce of epsom salts or Glauber's salt in a glassful of warm water. Lacking these, give white of egg in large quantities of warm water.
3. For iodine poisoning, give large quantities of common starch in water. White of egg, especially if taken mixed with milk, is also valuable.
4. For wood alcohol or "hootch" poisoning, give an emetic (1) and quantities of strong coffee. Keep the victim warm and apply heat to the chest over the heart.
5. Omit food.
6. Send for the doctor.

WE read of so many cases of poisoning that it is a good thing for every household to have some knowledge of what to do in such an emergency. It is well to have in storage the ingredients for overcoming the effects of poisoning.

The first thing a doctor tries to do in such a case is to empty the stomach. If he has his instrument bag with him, he will use the stomach-tube to wash out the stomach.

Of course the layman is not expected to use this apparatus. He must trust to emetics to free the system of

any unabsorbed poison. Anything which will produce vomiting without poisonous effects is a suitable emetic.

What can be found in every home which can be employed as an emetic?

The simplest thing is common salt. In half a pint of tepid water dissolve two teaspoonfuls of salt. Have the victim drink the whole quantity.

Salt cannot be depended on, so we must have some other household remedy to accomplish the thing we seek to do. One of the very best emetics is mustard. Dissolve a teaspoonful of mustard flour in half a pint of water. This is likely to be effective and should be taken as soon as possible.

Powdered ipecac, in thirty-grain doses, is one of the uncertain drugs. A better one is zinc sulphate. Taken in thirty-grain doses, it is a reliable, safe, and promptly acting emetic. If the first dose does not act, repeat it in half an hour. Use plenty of warm water for a solvent each time. The tepid water alone is an important aid to bring about vomiting.

There can be no doubt that prompt and effective measures to produce vomiting have much to do with recovery from most poisonings.

The most common of all kinds of poisoning is that due to carbolic acid. Whether taken for suicidal purposes or by mistake, it produces symptoms which are exceedingly painful and likely to prove fatal unless the victim is promptly and skillfully treated.

Never keep carbolic acid or any other poison about the home unless the bottle is plainly labeled.

In almost every house can be found epsom salts or Glauber's salt. In case of carbolic acid poisoning, a half-ounce of either should be dissolved in a half-pint of warm water and the mixture swallowed.

White of egg in large quantities of warm water is useful.

Warmth and stimulation are indicated.

Another drug commonly taken by mistake is iodine. The antidote is starch—common laundry starch. Dissolve the starch in water and administer in large quantities.

Arrowroot, gruel, and other starchy things, while not as good as the pure starch, are useful. As in other cases of poisoning, white of egg is valuable, especially if beaten up in milk.

In wood-alcohol or "hootch" poisoning, give an emetic and quantities of strong coffee. Keep the sufferer warm and apply heat to the chest over the heart.

POISONING, FOOD OR PTOMAINE

WHAT TO DO IN AN ATTACK

1. Give a large quantity of tepid water to which mustard flour is added in the proportion of a teaspoonful to a pint of water. If mustard is not at hand, use the same amount of baking soda. Sticking the finger down the throat may help to produce vomiting.
2. Put the sufferer to bed and keep quiet after the stomach and bowels have been emptied.
3. Omit food for several hours after the symptoms have been relieved.
4. If the symptoms are severe, send for the doctor.

PTOMAINE poisoning is a term used to describe the illness due to taking bad food. When first employed it was applied to the poisoning from the chemical products of putrifying food. But now it is the popular way of naming any sickness following the eating of decomposed, germ-laden, or poisoned food, no matter how the poisonous materials entered it.

There is a popular idea that "bad" food is of necessity decomposed and vile, or tainted, in taste. This is not the case. For instance, oysters and clams may be perfectly sound and wholesome in and of themselves, but the water contained within the shell may be infected with the germs of diarrhea or of typhoid fever. In the body of the oyster, too, may be the germs of disease.

Meat and canned vegetables may be chosen by a harmful germ as a place to propagate. One such germ is known as the "bacillus botulinus." The foodstuff was perfectly good when it was canned, but there was an accidental contamination with this bacilli. They grew and multiplied till the whole can became infected and dangerous.

What happens to fruit or vegetables after canning depends largely on the temperature of the storage room. Every good housewife demands a refrigerator or a cool cellar. The perfect preservation of canned goods is determined by the adequacy of the cooling system.

When good material is properly prepared and canned, there is no reason why it should not keep indefinitely. When a can of well-canned fruit or vegetables is taken in the hand, it is found clean. The label is unstained by fluids which have escaped under the cap or from some other leak.

On opening the can there is a sweet, fruity or vegetable odor. If there is an unnatural or offensive smell, something is wrong.

The juices or fluids of the can are clear and sparkling. They are not turbid and cloudy.

Milk, cheese, ice-cream, custard, and all dishes made from milk may be breeding places for germs, which in their turn produce a violent poison, known as "tyrotoxicon."

The fungi of certain grains are poisonous. Likewise, under certain conditions, the seeds of some plants, and even the potato, if eaten after it has sprouted, may be dangerously poisonous.

The symptoms of ptomaine poison are familiar to everybody. Nausea, vomiting, and diarrhea are the most common. Weakness, fainting, cramps, and fever may be present.

When a person who has been perfectly well is taken ill very suddenly there is the possibility of food poisoning, if these symptoms are present. You may be quite sure it is food poisoning if a whole family, or a group of persons who have dined together, are taken ill with similar symptoms.

The first thing to do is to get the poisonous material out of the body. The stomach should be emptied.

To accomplish this, drink a lot of tepid water. Soda added to the water, or a small amount of mustard, will do the work usually.

In case of violent poisoning the doctor may use the stomach-pump. If the doctor is not to be had, sticking the

finger down the throat will cause gagging and vomiting, especially after drinking the tepid fluid.

The bowels should be emptied. For this purpose salts may be administered. The sufferer should keep warm in bed, be quiet, and try to sleep after the stomach and bowels have been emptied. Omit food for several hours.

Every case known to be food poisoning should be reported to the health authorities. This will enable them to trace other purchases from the infected source. Coöperation of this sort makes for the safety of the public. Your assistance may save dozens of others from the misery of food poisoning.

(See also *Indigestion.*)

SEASICKNESS

WHAT TO DO

To avoid the attack

1. Give a tablespoonful of castor oil the night before going aboard ship.
2. One should eat lightly and avoid liquids, especially milk and any food which may be tainted.
3. One should lie still in berth or steamer chair with the head supported against something stable.

For the attack

1. Keep the sufferer quiet in his berth.
2. Place a hot-water bottle at the feet and another on the abdomen.
3. A binder around the body is sometimes helpful.
4. Give three drops of chloroform on a lump of sugar.

WHEN you first get seasickness you are afraid you will die. As you grow worse and more miserable, you finally reach a point where your only fear is that you won't die.

I speak feelingly because I have been seasick. I assure you it is a terribly uncomfortable experience.

In the skull there is a hollowed-out space, providing room for the nerve and part of the apparatus of hearing. Associated with these structures are three hollow tubes, known as the semicircular canals.

Just as the spirit level establishes the position of an object in space, so do the semicircular canals determine for the brain the position of the head. No matter in what direction the head is turned or how it is tilted, it comes into the field of one of these canals and the brain receives telegraphic news of what the head is about and where it is.

When you step on shipboard and the old sea gets on a rampage, your head bobs and jerks about, until the semicircular canals go on the war-path. Then you get dizzy and sick at your stomach just as you did as a child when you spun about on one foot, to outdo your playmates in that game.

To avoid seasickness, you must keep your head from sudden and violent movements. You must make it conform to and harmonize with the motions of the ship.

To this end, lie in your steamer chair with your head against its back. If you sit up straight, support your head against some stable thing, like the side of the ship or one of the pillars, so it won't bob about.

Most persons on shipboard feel better in the open air, provided they are warmly clad. This out-of-door air keeps them from illness. Personally, I prefer the bunk and I never get seasick while I stay in bed.

But, whether you remain in your stateroom or go on deck, keep your head against the solid ship. Do not let it move about, independent of the grosser movements of the vessel.

Before going aboard ship, clean out the bowels. A good dose of castor oil will clean the intestines. There should never be neglect of the digestive tract, but it is fatal to comfort on shipboard to start your journey with intestinal fermentation.

Eat lightly and avoid liquids. Get lots of sleep and do not enter too violently into the joys of shipboard; especially the gastronomic joys, until you are acclimated. It is particularly important to avoid milk or any food which may be slightly tainted.

I doubt if the food is ever primarily responsible for seasickness, but if the system is much disturbed trifling things will precipitate the attack. It is probable, too, that many illnesses on shipboard are called seasickness when, as a matter of fact, they are merely stomach upsets due to wrong eating.

If you actually get sick, go to bed at once. Avoid food

and keep in your berth. Place a hot-water bag at the feet and another one on the abdomen. Sometimes a binder around the body promotes comfort. Holding ice in the mouth or small doses of iced champagne may help.

There are several remedies which possess virtues. One of them is chloroform. Two or three drops taken on sugar will soothe the nerves in the stomach and sometimes control the vomiting. Several well-known remedies for seasickness are on the market. Some of them contain bromides, which drugs have some effect in controlling the trouble.

(See also *Car Sickness.*)

SHOCK

WHAT TO DO

1. Send for the doctor at once.
2. Have the sufferer lie down with the head lower than the body, and keep perfectly quiet.
3. Surround him with hot-water bottles or hot bricks or stones, taking care not to burn him. Then cover him with blankets.
4. Give a teaspoonful of aromatic spirits of ammonia in a little water every hour until the doctor comes. Small amounts of black coffee can also be given.

THERE is one particular bodily condition which is always alarming. It never comes from a trifling cause and can never be treated lightly. This is the state called shock.

The blood-vessels are normally firm and elastic. In health they are contracted, resistant to the pressure of the blood stream, performing their function as perfectly as newly laid water-pipes.

In shock the blood-vessel walls lose their normal qualities. They become soft and flabby and dilate to such an extent that the blood, instead of being confined in a warm bed over which it makes merrily along, becomes a lazy and sluggish stream. The heart beats rapidly, but with little effect upon the dilated blood stream. The blood current is as lost to its normal action as is a river which has escaped its banks and spread itself over the whole valley.

Terrible injuries, crushing injuries particularly, are followed by shock. The injuries received in railroad wrecks are usually complicated by this condition. Mangled bodies,

crushed limbs, shattered bones, torn nerves, the fright of such an experience—all these are conducive of shock.

Extensive burns, whether by involvement of a large area or by deep invasions of the tissues of the body, are frequently followed by shock.

Some of the tissues of the body are more sensitive than others. If these are injured, shock is almost certain to occur. The lining membrane of all the cavities of the body is such a tissue. The lining of the chest, of the abdomen, of the skull, of the big joints, like the knee—injury to one of these linings will produce shock.

The temperature falls below normal. The breathing is interfered with, the patient catches his breath, yawns, and sighs. His face is as pale as death. Constant demands are made for water. Pretty soon nausea, vomiting, and fainting are followed by unconsciousness.

Usually there is no complaint of pain. The patient will talk rationally at the time and afterward have no remembrance of the event.

Needless to say, there are many things the doctor can do to overcome shock. He has remedies which may be given by the hypodermic needle. Of course, the layman cannot employ these, but there are measures which he can use and which are most helpful.

The patient should be kept perfectly quiet. Have him lie down with his head lower than his body. Raising the foot of the bed will accomplish this.

Apply blankets and surround the patient with hot-water bottles or hot bricks or stones, taking care not to burn him. It is wise to cover the heat-conveying things with cloth, so as to protect against burning.

Give a little aromatic spirits of ammonia. Black coffee in small quantities will quench the thirst and act as a stimulant.

(See also *Fainting.*)

SNAKE BITE

WHAT TO DO

1. Tie a ligature, made of anything at hand, tightly about the limb above the wound.
2. Have the victim suck the blood or poison from the wound and spit it out immediately.
3. Wash out the wound with soap and water, if possible.
4. Rub permanganate of potash crystals, if they can be had, into the wound.
5. Keep the patient warm and give half a teaspoonful of aromatic spirits of ammonia every half-hour until the doctor arrives.
6. Do not get excited. Bites of native snakes are seldom, if ever, fatal.

LATE in the summer when the water dries up in the hills and mountains, the snakes come down into the meadows. They seek water and food.

It is at this season of the year we are apt to run across the dangerous snakes. At all times, of course, the common garden, or striped, snake is to be seen. The rattlesnake and copperhead are the most familiar varieties of the poisonous snakes. They are occasionally found in many parts of North America.

The remarkable thing is that comparatively few persons are bitten by snakes. Instinctively we hate snakes. So inborn is the dread of them that we consider "queer" the occasional individual who says he likes them. I suppose it is the dread of snakes and the constant watching for them in the grass and weeds that have guarded us against their attacks.

Fatal effects from snake bite in our country are extremely rare. Tropical snakes are larger. They have larger poison

glands and, with their bite, inject larger doses of the venom. On this account their attacks are more to be dreaded.

It would be interesting if every fatal or serious condition following snake bite could be recorded and studied. This would determine how important is the extermination of the venomous snakes.

I have seen animals which had been bitten by snakes, but always after a few days of illness they have recovered good health. However, there can be no doubt that snake bites are to be dreaded and, whether many persons die from this cause or not, we should know exactly what to do if bitten.

The danger comes, not from the immediate effect of the wound, because this is very trifling, but from the effect of the poison upon the heart and nervous system. On this account, the purpose of the treatment is to prevent the poison from getting into the general blood supply, by which it would be carried to every part of the body.

Immediately, therefore, the part bitten should be walled off from the rest of the body. For instance, if the hand or foot has been wounded, a ligature of some sort should be tightly tied about the limb, above the wound or between the wound and the heart. A string, rope, or torn strip of handkerchief or shirt, a shoe-lace, neck-tie, wire, piece of grape-vine, flexible switch, or tough bark may be used. Whatever is thus employed should be tied firmly, and then a stick should be inserted under the ligature and tightly twisted.

The wound should be sucked out and washed with soap and water, if they are available. No harm will come from sucking the wound.

Permanganate of potash crystals, if they can be had, should be rubbed into the wound.

The patient should be kept warm, given limited quantities of aromatic spirits of ammonia until the doctor arrives.

There are various serums which may be injected, but these should be used by the doctor. They may be had from the New York Zoölogical Garden, or possibly from the local Board of Health.

SORE THROAT

(KNOWN ALSO AS PHARYNGITIS AND RHEUMATISM OF THE THROAT)

WHAT TO DO IN AN ATTACK

1. Give a teaspoonful of castor oil, or a rectal injection of warm soapy water.
2. Have the sufferer gargle the throat every hour with hot water, to which bicarbonate of soda may be added—a teaspoonful to half a pint of water.
3. Paint the throat twice a day with one part of tannic acid to twenty parts of glycerine.

ONE of the common experiences of life is to suffer from a sore throat. I am very sorry, because folks who are well and strong and who have lived hygienic lives will not have sore throat.

If you wake up with soreness of this sort, you should submit to yourself this series of questions:

"Have I lost sleep, or have I been sleeping in a poorly ventilated place?"

"Have I violated the rules of simple living as regards food or drink?"

"Have I smoked too much, or spent too much time in a smoke-filled room?"

"Am I suffering from the lack of proper intestinal action?"

"Have I neglected to walk in the sunlight and to fill my lungs with an abundance of pure air?"

The answer to one of these five questions will suggest the origin of your sore throat.

Having the symptoms, it must then be determined what form the trouble will take. There are a number of diseased

conditions responsible for the pain and inconvenience of which soreness of the throat is but the beginning.

Pharyngitis is one of the most common causes for a peculiar raw and scraped feeling. It feels as if all the lining membrane of the throat had been torn off and salt rubbed into the raw surface.

The pharynx is the part of the body between the nose and the vocal cords. When you look into the mirror, the very back part of the throat, behind the down-hanging uvula, or soft palate, is the pharynx.

The pharynx is lined with mucous membrane, continuous with the nasal passages above, the mouth in front, and the windpipe below. Any acute cold or catarrhal condition will readily extend to the pharynx.

For some reason or other, when one is run down, out-of-sorts, constipated, generally "off the feed," and debilitated, the pharynx becomes inflamed.

The first day and night there is a feeling of soreness and discomfort. The second day the symptoms are worse, and the second night is sleepless, so severe is the pain, with constant inclination to swallow.

The third day the pharyngitis shows improvement, and by reason of the lessened pain, as well as the exhaustion from loss of sleep, the third night is usually a good one. The fourth day marks the end of the discomfort.

Many clergymen have this trouble; indeed, it is often called "preacher's sore throat." Hospital interns, nurses, manicurists, barbers, stenographers, clerks, and all others who spend much time in a vitiated atmosphere, are liable to attacks. When you have once had it, repeated recurrences are to be expected. For this reason, one learns to dread the onset of the ailment.

On the first appearance of the sore throat the bowels should be emptied. If the trouble is a chronic one, particular attention must be given to the correction of constipation, if it is present.

For the soreness itself, hot-water gargles are useful.

Use the water as hot as can be borne, and repeat every hour or two.

The raw, scraped feeling is due to the excessive acidity of the saliva. Bicarbonate of soda may be added to the hot water, and will be most grateful. Letting a soda mint dissolve in the mouth will promote the comfort.

An astringent, like tannic acid in glycerine, may be used to paint the throat. Dissolve twenty-four grains of the acid in one ounce of glycerine.

Mouth breathing aggravates any form of sore throat. If the nasal passages are occluded by thickening of the nasal mucous membrane, or if adenoids are present, medical attention is required. In such event, you should consult your doctor. Furthermore, if you are run down and have been out-of-sorts for some time, you should see the doctor.

Remember always, sore throat is but a symptom. It may be due to pharyngitis, or it may come from tonsilitis, from rheumatism of the muscles of the neck, from a number of different diseases. It is wise to determine the exact cause, so that no time need be wasted in finding a cure.

(See also *Cold, Why We Should Not Neglect a Common; Diphtheria; Hoarseness; Tonsils, Enlarged.*)

SPRAINS AND STRAINS

WHAT TO DO

1. Elevate the injured part.
2. Apply cold water or ice.
3. If the strain or sprain is slight, strap the part with adhesive plaster, or firmly bandage it.
4. Consult the doctor.

SPRAINS of joints and strains of muscles are among the most common of all accidents.

They vary in severity from a slight stretching or twisting of the tissues to pronounced tearing of the injured part.

In every such accident skilled surgical care is necessary unless the case responds at once to the simple treatment which can be applied at home. It is essential to determine if the injury is really a sprain, or if possibly the bone has been broken. The X-ray may be called into use to make sure exactly what has happened.

The accident may partially dislocate the bones forming the joint. They may go back into place, but, of course, the ligaments and tissues have been torn or stretched.

If the ankle, foot, knee, or leg is the part affected, walking will become difficult or impossible. No matter what portion of the body is involved, the part is painful to touch or use and may be excessively painful for a few hours even when kept quiet.

What should be done until the doctor is seen?

Rest and freedom from movement are indicated. It matters not where the injury is, this rule applies.

If the injury is slight, rest and quiet will be insured by the application of adhesive plaster strips. These should be applied from far below the seat of injury to well above it. Let the first strip be carefully and smoothly applied. Then

the next one should overlap the first, and so on till the entire surface is covered.

In the absence of adhesive plaster, a bandage may be made from an old sheet or other piece of cloth. This may be smoothly and firmly applied from below up, until firm support is given the injured part.

Whether a bandage is used or adhesive plaster, the strips should be an inch and one-half or two inches wide—wide enough to lie smoothly on the skin and not roll up into a string or rope.

If the injury is followed by pain, rest in bed with the damaged part elevated will promote comfort. Cold-water applications, or the local use of lead-water and laudanum will help.

To relieve the soreness of a strained back, strap the part with three layers of adhesive plaster, about two and one-half inches wide. Cut the plaster in strips long enough to cover the back and extend well along the sides. About eighteen inches will be the right length. Let the strips overlap each other for about an inch at the sides, all along their length, so as to form a sort of snug jacket. Apply one layer over the other. Let the jacket remain on for two or three weeks.

A plaster-of-Paris cast may be needed. Likewise, baking and massage will promote the cure. All the later steps should be taken only with the advice of the physician. Good sense and a little skill will ease the immediate pain. This is as far as the amateur should go. Each of us should have knowledge of first-aid measures, and every school should teach them. The sum total of human misery will be much reduced by this knowledge universally held.

STUNNED, WHAT TO DO WHEN

(BLOW ON THE HEAD)

WHAT TO DO

1. Call the doctor at once.
2. Lay the victim down with the head and shoulders raised on a pillow or a folded coat.
3. If there is bleeding, this must be controlled. (See chapter on Bleeding, or Hemorrhage, Part I.)
4. If not, apply cold compresses to the head.
5. Apply hot-water bottles or hot bricks to the feet and keep the sufferer warmly covered. Be careful not to burn him.
6. If the pulse can be felt, or breathing detected, consciousness will return shortly.
7. If pulse and breathing cannot be detected, use artificial respiration. (See chapter on Drowning, Part I.)
8. Do not handle the sufferer roughly.

A BLOW or a fall on the head, if hard enough, will produce unconsciousness. It may be a very brief stunning, or the loss of the senses may continue for hours or even days.

Such a blow produces a disturbance of the brain. This may be a passing trouble, but if there is hemorrhage of the brain, the difficulty is sure to be more serious.

There are drugs and disturbances of the system which cause loss of consciousness. Of these we have spoken elsewhere. At this time I wish to discuss the stunned condition which you know comes from a blow on the head. Perhaps you saw the accident or some bystander described it to you.

Place the victim in a position which would be a comfortable one if he could testify. Raise the head and shoulders on a pillow, or a folded coat.

If there is bleeding, this must be controlled. (See chapter on Bleeding, or Hemorrhage, Part I.) If not, apply cold to the head.

Keep the body warmly covered. A hot-water bottle or a hot brick to the feet will hasten recovery. Take pains not to burn the skin.

If the pulse can be felt, no matter how weak it is, and if there is breathing, no matter how shallow, consciousness is likely to return.

If pulse and breathing cannot be detected, it may be necessary to resort to artificial respiration as in drowning. (See chapter on Drowning, Part I.) This is rarely needed, but it should be kept in mind.

Do not handle the patient roughly, because rough usage is apt to do harm.

Call the doctor at once.

(See also *Drowning; Shock.*)

STYES

WHAT TO DO

1. Pull out the eyelash in the middle of the sty.
2. Apply one per cent yellow oxide of mercury ointment nightly.
3. Have the eyes tested for glasses.

I ONCE heard a couple of chauffeurs discussing styes. One said they are due to bad blood and the other said they come from using the eyes too much. They were both right, but there is a lot more to say about the causes of styes.

Any condition in which pus formation takes place is said to be due to infection. That is, it is due to the presence and growth of certain germs, which we call "pyogenic," or pus-producing germs.

No one of us can escape contact with germs, including the pyogenic varieties. Not a day passes, probably not an hour, but we touch, handle, or swallow thousands of them.

Why, then, do not all of us become infected?

The body, when it is in perfect health, is armed with powers of resistance to disease. We do not know all about these powers and just what they are, but if they are intact and kept so by right living, right eating, and observance of proper rules of hygiene, the body can fight off all the germs it is likely to meet.

In this fight against disease, great aid is rendered by the protecting skin surface and mucous membranes. In a sense, the body is like an article sold in an air-tight wrapper. It is protected from contamination by the water-tight, air-tight, flexible and resistant skin and mucous coverings.

Wrong living, or disease of some sort, may lower the resistance to a particular form of germ life. Injury may

break the wrapper and permit the pus-producing germs to gain an entrance into the tissues somewhere.

When the germs do get in, what the result will be depends upon the form, strength, and activity of the germs and upon the degree of weakness of the human tissues. This weakness is added to by chronic congestion or inflammation of the part.

This gives us a general idea about pus infection. Now what about styes?

Two elements are necessary for their production. The first of these is lowered resistance of the body, perhaps from some sustained indiscretion. Chronic indigestion, late hours, excessive use of tobacco—all these are factors.

Then, eyestrain, due to the need of glasses, excessive use of the eyes, too much reading, and bad light, may cause constant congestion of the eyes and eyelids. Irritating vapors, smoke, or dust, rubbing the eyes, constant exposure to the weather, habitual weeping—any one of these may keep the eyelids inflamed and prepare the way for pus infection.

So, you see, there are several factors, and when all or some of them are present, styes are likely to trouble you.

There may be a single stye, if the trouble is due to accidental and passing things, but if the cause is founded on lowered bodily resistance and chronic irritation of the lids, then repeated crops of styes will come.

Styes always occur on the edges of the lids and should not be confused with other growths on the lids.

To get rid of styes the bad eating habits or other bad practices must be corrected. The stomach, kidneys, intestinal tract, and other organs must be functioning properly.

The vision should be tested, and if there is appreciable eyestrain, glasses must be worn to correct the defect. Glasses serve a double purpose, by overcoming the defect in sight and by protecting the sensitive eyes against dust and wind.

A tendency to styes may be corrected in some instances by the nightly use of an ointment, made of a one per cent preparation of yellow oxide of mercury.

The hands and face should be washed with soap and water, and then a tiny particle of the salve may be applied to the lids. It should be gently rubbed into the tissues.

If there is an eyelash in the middle of the stye, it may be pulled out, thus giving drainage.

Styes are a danger signal. They indicate habits and a manner of life which are harmful.

SUNBURN

WHAT TO DO

1. Before going in the strong sunlight, dust the face and arms with a powder made of one part of quinine to fifteen parts of talcum, or apply a solution of one part of quinine in twenty parts of petroleum oil.
2. Sometimes smearing the face with cold cream is effective.
3. After exposure, clean the skin with cold cream before bathing it with water.

YOU learned in physics that light consists of a lot of rays and that these rays differ in their effects. Some cause heat. Some illuminate. Others have magical, chemical effects. These last rays are called "actinic" rays. They are used by the photographer to make possible the impression of the picture upon the plate.

When you go on a picnic, the actinic rays paint pictures on your face. They burn redness into the tip of your nose. They sear your neck and back. They have no respect for bald heads, and the golfer comes home with a red and shining dome.

Sunburn and tan are due to the action of these special rays. But it does you no good to know why you suffer this way. You want to know how to escape it.

It is hard for some of us to learn that everything we undertake should begin temperately. When we play tennis we have to "go easy" at first. When haying time begins it is well to pitch hay modestly the first day. Otherwise, when the next morning dawns there will be sore muscles and aching joints.

If you are light-complexioned, and especially if you are inclined to be "sandy," you must be careful about exposing

your face and arms to the sunlight. Go at it by easy stages. Pretty soon your skin will adapt itself to the sunlight, and then you will escape the dreadful burning you will have without such care.

One may be ill as the result of sunburn. Fever and other constitutional symptoms may follow. Certainly your efficiency will be lowered for several days, if the sunburn is excessive.

Wear a hat with a wide brim, if possible. Women get a lot of protection from the thinnest sort of a veil. It is surprising how much good this does. If you take pains like this for two or three days, you will probably escape severe sunburn.

Quinine is a useful drug applied locally to protect the skin. It may be prepared as a powder—one part to fifteen parts of talcum powder. This may be dusted on the skin, or the quinine may be dissolved in petroleum oil and applied.

If the skin had been burned, or to prevent its burning, cold cream may be applied. Water should not be used after exposure to the sun. After coming in from a drive, a few hours on the beach, or anywhere in the sunshine, do not apply water, but clean the skin with cream, gently rubbed off with a soft cloth.

If, after a sea bath in the sunshine, you dry yourself and go in the water again, you do so at the risk of a painful case of sunburn. When this procedure is repeated several times during a morning or an afternoon on the beach, real suffering is likely to be the penalty exacted of a sensitive skin.

Treat your skin as carefully as you do the veneer of a piano, and you will have a beautiful complexion.

Harden yourself to the sunlight, because you need its healthful effect. It kills germs, enriches the blood, and makes you fit for life.

SUNSTROKE

(KNOWN ALSO AS HEAT STROKE, FEVER HEAT, HEAT PROSTRATION, OR HEAT EXHAUSTION)

WHAT TO DO IN AN ATTACK

If the face and eyes are red and the temperature high

1. Place the sufferer in a tub of cold water and apply ice to the head.
2. As soon as the temperature is reduced, put him to bed.
3. If the temperature rises, repeat the treatment.

If the face is pale and skin cold

1. Put the sufferer in a hot bath and apply cold to the head.
2. Give a teaspoonful of Jamaica ginger in a little water.

For any heat prostration

1. Keep the sufferer in bed and quiet for a day or two.

EVERYBODY is familiar with sunstroke. When a hot Monday follows a hot Sunday there is sure to be trouble in the large cities. The population moves out to the parks, the water-side, or other amusement places. Excessive eating and, where it is indulged in, excessive drinking are productive of physical debility and lessened resistance.

A Sunday spent in this way, followed by more or less disturbance of sleep that night, prepares the way for evil effects from prolonged exposure to sunlight on Monday. Sunstroke is the penalty paid for such excesses.

No matter how well you may be, it is not safe to expose yourself for hours to the sun's rays. I shall never forget the occasion of President Harding's funeral. It was one

of the hottest days I ever experienced. Tens of thousands of his mourning fellow-countrymen stood in the sun for hours waiting for the procession to pass. As I rode along Pennsylvania Avenue and through the Capitol grounds, I saw dozens of persons in collapse from the heat.

There are two forms of sunstroke. They are quite different in their effects and radically different in treatment.

Heat stroke—the condition we are accustomed to call sunstroke—produces redness of the face and skin, and high temperature.

Heat prostration, or heat exhaustion, produces paleness of the face, coldness of the skin, and temperature below normal.

In heat strokes there may be no warning symptoms. The victim may fall to the ground utterly unconscious. So terrific are the reactions upon his vitality that he may die within a few hours.

In milder cases there may be dizziness at first. This is followed by terrific headache, nausea, and vomiting. The pulse is full and bounding, and the temperature may shoot up to 105 or 106 degrees, or even higher.

In other cases the pulse may be very full, but equally slow. Then the breathing is difficult, and may even be like snoring. There is unconsciousness, and death may occur in a day or so.

You should make note of the distinct difference in these two forms of illness due to heat exposure. You must apply the treatment, and it must be the correct treatment or you may do harm.

For heat strokes with red face, red eyes, and high fever, your aim is to reduce temperature at once. To this end, applications of ice or cold water are demanded.

You may place the victim in a tub of cold water, apply ice to his head, and attempt in this way to reduce the fever.

In one of the hospitals where I attended we used to see lots of these patients who were brought in by the ambulance. One or two summers we treated many cases by placing the patient on a blanket and turning the hose on him.

As soon as the temperature comes down, the patient is put to bed. If there is a recurrence of high fever, the treatment is repeated.

Quite different is the treatment for heat prostration, or exhaustion, with pale face and cold skin. Here we wish to raise the temperature and stimulate the heart.

A hot bath, with cold applications to the head, is indicated. Sometimes it is enough to put the feet in hot mustard water and give a dose of Jamaica ginger.

There should be rest in bed and perfect quiet for a day or two after such an experience.

SWALLOWING A FOREIGN BODY

(SUCH AS A PENNY, A BUTTON, A PEBBLE)

WHAT TO DO

1. Give unusual amounts of bread, cereals, and vegetables to assist the passage of the substance from the body.
2. Do not give emetics or cathartics.
3. Do not get excited. Such accidents are seldom followed by ill results.

A BABY'S mouth is like a magnet—it attracts to itself everything within reach. The first thing the youngster does when he gets his hands on the scissors, the thimble, the spool of thread, or his father's watch, is to put it in his mouth.

The worst of it is, too, that he will swallow everything capable of passing his throat. Where is the child who hasn't swallowed buttons, pennies, marbles, and innumerable pebbles? These are of little consequence, but when pieces of glass, pins, and shingle nails are devoured, it becomes a more serious thing.

There may be some symptoms of choking, and rarely there may be some bleeding because the throat has been cut. Usually, however, you do not know the baby has swallowed a foreign substance until you miss the article itself.

Every young mother suffers agonies of fear when she discovers, to her horror, that baby has swallowed a pin or a pebble. Fortunately, though, she has little to worry over, because it is rare, extremely rare, for any ill effect to come from this escapade. The stomach is big enough to accommodate quite a hardware collection. On this account, the stomach offers no complaint. When the article reaches the

small intestine, there may be a little colic. Usually there is no sign of its progress until it passes out of the body. At the place of exit there may be slight tearing of the tissues, if the foreign body is pointed or sharp-edged.

It is several days, sometimes a week or even two weeks, before the article passes from the body. It is surprising what delays take place. But even though the thing is very large, it will make its way without disturbance to the baby.

The best thing to do when your baby has swallowed something not intended as food is to give the child unusual amounts of bread, cereals, and vegetables. The roughage afforded by these will assist the passage of the foreign body.

Do not give cathartics or emetics. More harm will result from violent methods than from expectant ones.

Some nervous children tear off the hair of furs and rugs and swallow it. Wool and threads of cloth and other similar things appeal to their perverted appetites. Even hair from the head of the child himself may be pulled out and swallowed.

Such material knots together and may, in rare instances, form a hair-ball in the stomach. Instances have been recorded of great masses collecting in this way. However, it is not worth thinking about, because it is a thing which happens to one child in a million, I suppose.

Try to be a philosopher, dear Mother, and don't worry unduly over your baby, no matter what it has swallowed. Kind Nature has made the body in such a way that every imaginable accident has been provided for, so you may be very confident that the outcome will be all right.

If the substance is not found in the stools within forty-eight hours, see the doctor.

(See also *Choking; Lungs, Foreign Bodies in the.*)

TOOTHACHE

WHAT TO DO IN AN ATTACK

1. Rub capsicum vaseline on the cheek or jaw, or apply a small mustard plaster.
2. If heat is soothing, let the sufferer apply a hot-water bottle, a hot-salt or hot-bran bag, or hot compresses changed every few minutes, to the cheek until the pain subsides.
3. If cold is welcome, let him keep cold water in the mouth to relieve the pain.
4. When overacidity of the secretion of the mouth is responsible for the trouble, bicarbonate of soda, either dry or in strong solution, held in the mouth, usually promotes comfort.

DID you ever sit up half the night with a mouthful of cold water? As fast as the water became warm, did you replace it with cold?

When you were a little boy, did you go out and lie down on the sidewalk in the sun, placing your cheek against the hot cement, in order to stop the throbbing ache in your back tooth?

Poor children! Earache and stomach-ache and tooth-ache! I had them all. Really, we never enjoy good health until we have had sickness, and especially, a variety of illnesses.

Toothache is the most unnecessary of our many aches. It is generally due to neglect. When an adult has toothache it serves him right. But the children have not sinned; they have been sinned against. They suffer the penalty of their parents' neglect.

Nobody likes to go to a dentist. He has sharp-pointed instruments and a drill that makes a frightful buzzing. The

funny thing about it, though, is that a dentist rarely hurts you. But you are always afraid he will hurt. When he uses the drill, it doesn't pain, but you are afraid the miserable thing will slip and buzz its way right through the nerve of the tooth. It never does do that, but you never get over fearing that it will.

The right remedy for toothache is the dentist. Of course, the child will not be apt to have the toothache if he is taught to use the tooth-brush daily and to care for his teeth properly. When the ache appears, however, he must have the immediate care of the dentist. Early attention will stop the pain and save the tooth. Many times, too, the treatment is very simply, briefly, and effectively applied.

What can be done to give temporary relief in toothache?

I have spoken already of cold water. The pain of toothache is sometimes due to the expansion of the gases of fermentation within the tooth or its socket. In such a case, the cold water reduces the temperature sufficiently to prevent gas expansion with its remitting pressure upon the sensitive portions of the tooth.

In other cases heat will relieve the pain. A hot-water bottle may be applied to the cheek, or cloths wrung out of hot water may give comfort. Hot-salt bags or hot-bran bags are used at times.

Counterirritation may help. Capsicum vaseline, rubbed on the cheek or jaw, produces such reaction as to stop the pain. A similar preparation containing menthol may be more helpful. A small mustard plaster will do.

At times the pain is due to overacidity of the secretion of the mouth. The acid fluid inflames the sore gums or irritates the sensitive tissues of the decayed tooth. In such a case bicarbonate of soda, either dry or in strong solution, held in the mouth, will give comfort.

Iodine properly applied is most valuable. Let me say now, however, that iodine is poison and may be harmful if wrongfully used. If employed at all, it must be applied with a match or toothpick rolled in a thin layer of cotton. A drop or two of iodine may wet the end of this applicator

and be gently rubbed on the gum about the aching tooth. As stated, it must be sparingly used, as it will harm the tissues.

These suggestions will take you through the night. The next morning consult a dentist.

VERTIGO, OR DIZZINESS

WHAT TO DO IN AN ATTACK

1. Have the victim lie down in a well-ventilated place.
2. Do not get excited. Keep him quiet and comfortable, and the attack will soon pass.

IF you ever experienced an earthquake, you may recall the terrible sensation of having the earth, normally so dependable and stable, suddenly become trembly and unstable. The very foundations of life seem to have been torn from beneath your feet.

The first time a spell of dizziness, or vertigo, attacks you, you will have a similar sensation. Indeed, the two experiences are remarkably alike.

There are a lot of different things which may be followed by vertigo. Hot weather, especially a protracted spell of hot weather, may bring on an attack of dizziness.

Abuse of the stomach by irregular eating, or the taking of cold food or drink, may produce it. Some persons have the bad habit of gulping down quantities of ice-water when they come in from the hot out-of-doors. This is a bad practice, and among the symptoms it may produce is vertigo.

Digestion is impaired by the intemperate drinking of ice-water. Almost all the stomach and intestinal disturbances which produce dyspepsia may cause dizziness.

It is remarkable how the circulation of the brain is influenced by toxins or poisons generated by indigestion, constipation, and fermentation. Blind spots, dazzling of the eyes, flashes of light, floating spots, and dizziness are common symptoms due to digestive disturbance.

Of course, vertigo produced by such a cause is not particularly serious, but it may indicate some disturbance in

the brain or nervous system. There are several diseases of these structures which have dizziness in their chain of symptoms.

We hear much these days—too much I fancy—about high blood pressure and its dire effects. There are uncomfortable feelings due to high blood pressure, and vertigo is one of them.

It may seem strange to trace dizziness to the eyes or ears, but it can be done in some cases. In the inner ear, deep in the skull, are certain little semicircular canals which constitute the spirit level of the human body. By their position and the movement of the fluid within them, we determine our position, and they help us to maintain our balance, or equilibrium. If they become damaged or diseased, serious vertigo follows at once.

If the muscles which move the eyes become unbalanced, there is produced a disturbance of the sight. This has the same effect upon us that an earthquake would have. While there is not actually a trembling of the earth, it looks as if there were, so we have the sensation of dizziness as long as our eyes are open.

The treatment of vertigo depends on the cause. It disappears speedily when the exciting factor is removed.

VOMITING, VIOLENT AND REPEATED

WHAT TO DO IN AN ATTACK

1. Put the sufferer to bed with a hot-water bottle to the feet and cold compresses to the abdomen.
2. Restrict the diet to small quantities of clear broth, ice-cold milk, ice-cold white of egg, or soft-boiled egg.
3. If these are not retained, try toast water, made by pouring boiling water over toast and straining off the fluid, a few sips of ice-cold champagne, strong, clear tea, or lemon-juice, strained and served cold.
4. If these fail, omit food entirely.
5. If the vomiting continues after several hours of rest without food, send for the doctor.

I SHALL never forget one boyhood birthday. I spent it in bed with an illness having violent vomiting as its chief symptom. I had gone out on an exploring expedition and, running short of food, had roasted some field corn. A boy's stomach will digest almost any sort of hardware, but I can testify it won't take care of enormous quantities of roasted field corn.

There is nothing more agonizing than terrible nausea and the retching of violent vomiting. It makes little difference what the fundamental cause may be, the symptoms are practically the same.

The vomited material may be black, or brown, or clear like water. It may be blood, pure or mixed with food. It may be clotted blood or fluid colored with bile.

In yellow fever vomiting is so prominent that the disease is sometimes called "black vomit." Alcoholism and poisoning from sewer-gas are capable of producing violent vomiting. In kidney disease there may be such poisoning of the

system as to cause disturbing symptoms, including violent vomiting.

In certain diseases of the brain forcible or projectile vomiting is one of the symptoms. Abscess or bleeding in the brain, or tumor, as well as disturbance in the circulation of the brain, may produce the most distressing vomiting, extremely difficult to control.

There is a form of vomiting called "juvenile vomiting," found among overworked school children. It is met in run-down young people and is undoubtedly nervous in origin. This rather rare symptom is obstinate and hard to overcome.

In seasickness we have another ailment in which inevitable vomiting is the terrible symptom. Disturbance of certain parts of the internal ear may cause similar trouble.

I have observed serious vomiting produced by eye strain, either from the need of glasses or because of lack of balance in the muscles of the eyeball. Absence of team-work in the eyes has caused nausea and violent vomiting.

The vomiting of pregnancy is a familiar example of reflex disturbance. Disease of the womb or ovaries may cause it. The passing of gallstones is another factor.

When violent vomiting is present the diet must be restricted to very small quantities of clear broth, ice-cold milk, ice-cold white of egg, or soft-boiled egg. Sometimes food must be omitted entirely.

Toast water, made by pouring boiling water on toast and straining off the fluid, may be retained.

A few sips of strong tea is helpful at times.

Clear lemon-juice, strained and served cold, may be held.

If food is not retained, rectal feeding may be resorted to in protracted cases.

Holding ice in the mouth is a simple procedure which may arrest the vomiting.

Rest in bed, a hot-water bottle to the feet and cold compresses to the abdomen, may control.

Electricity is helpful in other cases.

PART II
COMMON AILMENTS

ADENOIDS

WHAT TO DO

1. Have the adenoids removed surgically.
2. Prevent their return by attention to slight colds, cleanliness of nose (see chapter on Catarrh, Nasal, Part II) and mouth, fresh air day and night, good food, and other necessities of good health.

IT seems to be the terrible penalty of childhood to have to submit to certain ailments. When mothers meet and talk about their children the conversation is along this line: "Has Jennie had the measles yet?" "When does Johnny have his tonsils out?" "My three kiddies have just had their adenoids removed." Some day science will progress to the point of finding out how to spare little children all the misery and illness they now endure.

A very common affliction of early life is the condition we call adenoids. Between the nose and throat, in what is known as the vault of the pharynx, are certain little structures called lymph glands. They are perfectly normal things and, so long as they preserve their proper size and function, are of no concern.

Unfortunately, these glands have a way of increasing in size until the throat is literally packed with offending material.

Opening into the same space where these glands are found are the tubes which drain and ventilate the middle ear. One of the dangers of adenoid development is its interference with the ear. Many cases of earache, inflammation of the middle ear, and even mastoid disease, may be traced to this trouble. Middle ear catarrh and deafness may have similar origin.

It is not unusual to find the eyes weak and inflamed when the child has adenoids.

Mouth breathing, snoring, snuffles, coughing, sneezing, hawking, spitting, and thickened speech are characteristic. A peculiar discharge, like boiled starch, can be seen clinging to the back of the throat.

Whatever difference of opinion there may be about taking out tonsils, there can be no possible doubt that adenoids should be removed. They interfere with free breathing, leaving the child undernourished and underdeveloped because of lack of oxygen. They cause mouth breathing with all the evils of taking into the lungs unfiltered and unwarmed air. They lead to disastrous ear troubles. They leave the little patient liable to secondary infection with tuberculosis.

Children who are carefully watched from infancy may escape adenoids. Attention to slight colds, cleanliness of the nose and mouth, fresh air day and night, good food, and all the other elementary things which make for good health will guard against adenoid development.

But when once the adenoids have made themselves known by the disagreeable symptoms named, attention should be given them by a doctor.

(See also *Bronchitis, Acute Catarrhal; Catarrh, Nasal; Chills and Colds; Cold, Why We Should Not Neglect a Common; Croup; Earache; Mastoid Disease; Tonsils, Enlarged.*)

ANEMIA AND CHLOROSIS

WHAT TO DO

1. Have the victim eat meals at regular intervals.
2. Make sure that the kidneys and bowels eliminate properly. (See chapter on Constipation, Part II.)
3. Add to the diet cream, milk, fresh eggs, green vegetables, fresh and stewed fruits, and give two or three glasses of water between meals.
4. See that the sufferer avoids excessive use of tea, coffee, and other stimulants.
5. Have him exercise regularly in the open air.
6. Insist upon as many hours of sleep as possible in a well-ventilated room.
7. See that he avoids worry, fatigue, and irregular habits.

I HAVE no objection, professional or personal, to the use of rouge. I don't blame a pale woman for applying it.

But I am bitterly opposed to all the things that make for paleness in women and men, and girls and boys. The things that produce chronic paleness are all wrong.

Some of these things are medical, but too many of them are social. Crowded factories, dirty, unventilated, and unlighted; inside offices to which God's sunlight never penetrates; night work for the very young; long hours of work and long distances to reach it; excessive time on the feet for delicate girls; long stretches of stairs to climb and dusty places of employment—all these are factors in making pale faces and bloodless lips. Insufficient food due to its excessive cost, improper food due to ignorance of what should not be eaten, fraudulent substitutes for proper food, are other factors.

Anemia may be due to a lack of blood, or it may be caused

by the absence of certain important elements in the blood.

Chlorosis is that form of anemia met with in young girls. It appears at from twelve to seventeen years of age. We know little about its cause, but we recognize it on sight.

At the critical period between twelve and seventeen, the complexion loses its normal appearance and takes on a hue not unlike the yellow, greenish tinge the victim of seasickness has—hence the name chlorosis. On account of the color of the skin, the disease is sometimes referred to as the "green sickness."

Something interferes with blood manufacturing. The machinery breaks down, and, as a result, the normal blood supply is deficient in certain qualities.

Blondes are more susceptible than brunettes. Bad hygiene is an important factor. Factory girls who climb long flights of stairs and work in poorly lighted and ventilated rooms are particularly susceptible.

I am so thankful that the old-time sweat-shop conditions are speedily disappearing. The humane laws and the increasing humanity of employers are doing away with the vile surroundings which sapped the vitality of the last generation. Society should keep a vigilant eye on such matters. We must never again be obliged to wage war on this evil.

In chlorosis the appetite is lost, or else it is perverted. Earth, chalk, pencils, and other improper things are eaten by the victim. I recall a patient who had this symptom. On one occasion I asked her what she would order to eat if she could have anything in the world she wanted. Quick as a flash she answered, "A dozen cedar lead pencils."

Constipation is common. The heart is flabby and uncertain. Palpitation is one of the usual symptoms. Menstrual disturbances and ill health generally are accompaniments of the pathetic disease.

The treatment is a simple thing. Iron is lacking in the blood. By giving iron to make up for what the blood has not had in a normal way, the disease is overcome. Of course the family doctor will attend to the medication.

While chlorosis is not confined to the hard-working city

girl, there can be no doubt that the conditions surrounding the country girl are not so likely to produce it.

There is just one thing about the country, however, that should be emphasized now. Boards of Health have not been so active in most rural communities for the past twenty-five years as they have been in cities. Consequently, it is probably true that open windows are less the rule in rural districts than in the city. Of course, until very recently, furnaces were unheard of in the country districts, and, to preserve the heat of the stove, there was a temptation to keep the windows closed.

The frequency with which we meet anemia in the cities is a shame. Sit in a street-car any day and observe the people who enter, especially the women. When they first arrive, and for a period of five or ten minutes, the cheeks are red. Unfortunately, however, as soon as the effect of the exertion of catching the car has worn off, the color fades away and the face is as white as wax, unless rouge has been applied.

There are tens of thousands of such persons in New York City, and they are to be found in every commercial or industrial community. It speaks well for industry, however, that large employers of labor are now organizing and maintaining well-equipped welfare departments. Labor organizations have raised health and sanitation committees. Health authorities and state industrial commissions are aiding all these efforts. Intelligent welfare legislation is being employed. All in all, the prospects seem bright for the removal of many factors that have militated against health. Anemia and chlorosis will be less common in the future.

Among symptoms of the anemic condition are palpitation of the heart, occasional faintness, or actual fainting. These symptoms excite the fear, at times, that the heart may be diseased.

Puffy eyelids and swollen ankles give a suspicion of kidney trouble.

The stomach gives a lot of trouble. One day the patient can eat anything; the next day he eats practically nothing.

Malnutrition and undernourishment among children are

far too common. It is not alone among the poor that we find undernourishment. Whenever children lack food, or when, through ignorance or indifference, children are permitted to fill the stomach with the wrong food, we find malnutrition.

Candy, soda water, sweet cakes, and similar things are not in themselves harmful. But if the child comes from school hungry and is given this sort of stuff, when he needs bread and butter, there is no wonder he does not thrive.

Every child and every anemic person should have a quart of good milk every day. Chocolate creams are not a substitute.

Consult the dentist to make sure the teeth are sound.

Watchful care on the part of the parent will be needed to guide the child or the young person in the teens. No more useful service can be rendered the poorly nourished or anemic young person than the strictest oversight of his stomach and general surroundings.

The following are a few helpful suggestions for overcoming anemia and building up the general health:

Eat your meals at regular intervals. Add to your diet milk, cream, fresh eggs, plenty of green vegetables, fresh and stewed fruit. Drink two or three glasses of water between meals. Make sure that your kidneys and bowels eliminate properly. Avoid excessive use of tea, coffee, and alcoholic stimulants. Exercise freely in the fresh air and practice deep breathing. Sleep as many hours as possible in a well-ventilated room. Avoid overfatigue, worry, and irregular habits.

(See also *Adolescence; Constipation.*)

ARTHRITIS, OR INFLAMED JOINTS

WHAT TO DO

1. **Build up the general health.**
2. **Fix the joint with splint and bandage.**
3. **Consult the doctor to find the cause, and have it removed.**

INFLAMMATION of a joint is called arthritis.

Injuries may cause arthritis, but almost always this disease follows some other condition. Usually the producing disease is characterized by the formation of pus.

Among the pus-forming conditions which may be followed by inflammation of the joints are abscesses at the roots of the teeth and pyorrhea.

Pyorrhea is a disease of the gums around the teeth. In advanced cases pus forms, and gradually this is absorbed by the system. After a while, as a result, a joint here and there may become inflamed.

Diseased tonsils, where they become pus-infected, may result in arthritis. So also the nasal sinuses may be centers of pus infection and the cause of disease of the joints.

If elimination of the body wastes or poisons is interfered with, the joints may be affected. Failure of the function of the kidneys or intestines may thus become a cause for arthritis.

Some of the general diseases, like tuberculosis, typhoid fever, scarlet fever, the social diseases, and rheumatism may direct part of their attack against the joints.

You see it is not necessary to have a wound or direct injury in order to damage and infect the joints. The germs of disease may be carried through the blood-vessels or the lymph channels.

It is not so common in America, but in some countries gout is a great factor in the production of this disease.

The symptoms of arthritis vary greatly. In some cases the joints, for instance the fingers, swell enormously. They become hot, red, and exceedingly tender to the touch. All the familiar signs of inflammation are present. The joints may be moved, but it is painful to move them. While the deformity is conspicuous, the function of the joint is not lost.

In other cases the deformity is hardly to be noticed, but the joint is stiff at first and finally entirely incapable of motion.

In arthritis from acute rheumatism there is high fever. In these cases a number of joints may be involved at the same time.

In tubercular arthritis a single joint marks the beginning of a much slower process. In this form there is usually a history of an injury beforehand.

The first indication for treatment in the acute and painful cases of arthritis is rest and quiet. The joint is fixed by splints and bandages and thus protected against movement.

In the chronic and painless form fixation in one position is undesirable. It leads to permanent stiffness and uselessness of the joint. Baking, when the joint is placed in a chamber and exposed to very hot air, is considered a valuable procedure. Massage and careful movement of the joint are helpful. If the baking outfits are not available, hot compresses may be applied at frequent intervals.

If pus forms in the joint, it must be drawn off by operation.

Sometimes vaccines are employed in the treatment of arthritis.

Needless to say, the possible effects of this disease are so serious that skilled medical care should be called upon as early as possible.

The causes have suggested what should be done to overcome a very obstinate and discouraging condition. The seat of pus formation should be found and the trouble corrected.

Sometimes a change to a dry and warm climate will help. Hot baths and the various mineral springs have their virtues.

Build up the general health; get away from care and worry, if possible, and have your doctor prescribe the indicated remedy.

(See also *Rheumatism.*)

BALDNESS IN MEN

HOW TO PREVENT

1. Keep the body well nourished and the circulation of the blood good.
2. Avoid tight, hard, heavy hats that interfere with circulation.

SMILE as we will, there is one affliction a man just hates to endure. He can't bear to be bald. He does his best to make a joke of it, but he feels like jerking the last hair out of his more fortunate friend's head.

Baldness and the quality of the hair appear to be symptoms peculiar to the family. That is why it is so common a thing to hear that baldness is hereditary.

Just because there is an unfavorable family history, I am not content to fall back on heredity and to give up before the battle begins. With rare exceptions, disease is not inherited. The tendency may be transmitted, but actual disease is acquired.

A good many diseases depend on anatomical peculiarities or defects. These physical conditions undoubtedly run in some families. For instance, in my family all the men have big noses. In another family, tiny ears may be the rule. Big feet or little feet, long fingers or short ones, narrow chests or full—these may be family traits.

Likewise the kind of a heart you have, or the size of the blood-vessels, may be the result of heredity. In my opinion, the strength and permanence of the hair depend on the heart and blood-vessels.

If you have a stingy heart action, with failure of the blood to be sent in forceful stream to the most remote parts of your body, you will be bald unless you are careful.

The scalp is supplied with blood, all of which comes from below upwards. Spreading out like a fan, the tiny blood-vessels go to every part of the skin of the head. Every hair has its vessel. Growth and strength of each individual hair depend on an unfailing supply of blood.

If you had an irrigated garden and the water-pipes or ditches were too short to reach to the edge of every bed and to every part of your garden, there would be speedy death of the plants outside the irrigated region. It is just so with the hair. There must be uninterrupted flow of blood to the very crown of the head, or else the hair will fall.

Anything interfering with the free blood supply of the scalp has the same effect as lack of force in the heart action. Tight, hard, heavy hats are sure to stop the flow of blood. The more such hats are worn the sooner will baldness appear.

To have strong hair the body must be well nourished. Certain foods contain the elements needed by the hair.

The growth, quantity, and appearance of the hair are pretty good signs of the vigor of the body and the strength of the heart's action. Poorly nourished children have hair without luster. It is amazing what a full diet of good milk will do for the hair of these little chaps.

One can live out his normal expectancy of life without a forcefully pumping heart, but it is hard to have a full crop of hair without it.

BILIOUSNESS

WHAT TO DO

1. Correct constipation, if present. (See chapter on Constipation, Part II.)
2. Give simple food and lots of water between meals.
3. Have the sufferer take plenty of out-door exercise and sleep.
4. Encourage the cultivation of regular and sane habits of life.
5. Insist upon relaxation.

THE late Mayor Gaynor, of New York City, once said. "Some people think they are pious when they are only bilious."

"Biliousness" was a word in common use a generation ago, and it continues to hold a place in the common speech, if not in the professional vocabulary. It describes a combination of symptoms, including headache, dizziness, indigestion, coated tongue, bad taste in the mouth, tired feeling, and general misery. The popular idea is that it is due to a sluggish liver.

The liver never fails to function as best it can. Sometimes, however, too much is asked of it. When you treat your body as if it were a play-house, the liver suffers with all the other organs.

If you habitually eat too much, especially candy or pastry, or an excess of fat, you may be putting too much strain on the liver. Likewise, long-standing constipation will disturb the normal condition of the liver.

In constipation there is an accumulation of waste material in the lowest portion of the colon. The veins supplying this part of the intestine communicate with the liver. Poi-

sons formed in the colon, or absorbed by this portion of the intestinal wall, will eventually reach the liver.

This is exactly the way Nature intended to dispose of the body poisons, but if an excessive amount of material of this sort is passed on to the liver, there may be too much for it to handle. Then the whole system suffers and we have the symptoms popularly called biliousness.

Not only are there physical signs of trouble, but the mind rebels. There are down-heartedness, sadness, and gloom of spirits. There may be muddiness of the complexion, pimples, redness of the nose, and general roughness and unhealthy appearance of the skin.

The conditions which result in chronic biliousness may cause hardening of the arteries, sleeplessness, black rings around the eyes, and disinclination to work. Headache, loss of appetite, furred tongue, and other symptoms have been mentioned.

All these indications of ill health are not to be misinterpreted. They do not call for cathartics, or "liver pills," or powerful drugs.

They call for simple food, better manner of living, daily exercise, lots of sleep, plenty of drinking-water and fruit, and common sense in eating and drinking. If our lives were more simple, we should suffer less from dietary ills, and the ailment commonly called biliousness would not come to plague us.

(See also *Constipation; Heartburn; Indigestion, or Dyspepsia; Nervous Breakdown.*)

BLACKHEADS, OR ACNE

WHAT TO DO

1. Correct the diet by cutting down on sugar, starches, and coffee, and giving simple food.
2. Give a tablespoonful of mineral oil every night, three hours or more after eating. Bran muffins and plenty of water are further aids to relief from constipation.
3. Frequent general baths and rubbing down with a coarse towel are necessary.
4. Daily exercise must be taken to the extent of causing gentle perspiration.
5. See that the victim gets lots of fresh air day and night.
6. Be sure the teeth, tonsils, and nose are all right.
7. Bathe the affected parts with water, as hot as can be borne. Then squeeze out the blackheads with a sterilized watch-key, or other blunt instrument, being careful to avoid bleeding. Do not use great force and do not remove too many at one time. Open any pus-filled pimples, using a sterilized needle for the purpose.
8. Apply some healing lotion. The following may be used twice a day: Milk of sulphur, water, and alcohol in equal parts, to which may be added one-tenth part of gum mucilage.
9. If there is much irritation, benzoated oxide of zinc ointment may be applied.

EVERY youngster seems doomed to go through an embarrassing and humiliating pimply period. I always feel sorry for the afflicted boys and girls, but it is one of the signs of approaching maturity. In spite of all we do, few escape the experience.

We call this disease acne, but, since the face looks as if

it were sprinkled with pepper, the more popular name is blackheads.

Red, swollen spots, sometimes capped with pus, and accompanied by blackheads—these are the characteristic signs of acne. The hard lumps may not come to a head, but may look red and angry for days and weeks.

The face, particularly the chin and forehead, the upper part of the chest, and the shoulders, are the parts usually affected. The disease commonly begins at the age of ten or twelve and continues more or less intermittently for several years. It is rare, indeed, to see it after the age of twenty-five.

Some skins are more liable to attack than others. Perhaps you have not noticed it, but there are many kinds of skins. Some are fine-grained and small pored. Others are coarse-grained, with large, open pores, and are very oily. The latter are liable to attack.

It is an interesting fact that the persons who have acne are likely to have lots of dandruff. There is a remarkable relationship between these two disagreeable conditions.

It is difficult to trace the cause of acne. Diseased tonsils, a running ear, intestinal disturbances—all these are open to suspicion as being factors. There can be no doubt that bodily poisoning from any cause must not be disregarded.

I suppose it may be said truthfully that most children are too much indulged. They eat sweets, starches, and fats to excess. We love our children so much we can deny them nothing. Ought we not to love them so much as to keep from them the things which may be harmful?

We cannot hope to cure acne until we cause our young patients to live the right sort of lives. This means lots of exercise in the out-of-doors. Activity of the body guarantees activity to the skin and a healthier skin.

For the sake of the skin, as well as for the good of all the rest of the body, they should be given simple food, green vegetables, fruit, milk, and coarse bread. Lots of water to drink, and, above all else, deep breathing are essential to health and a clean skin.

Almost always constipation or, at least, sluggish bowel movement, is present. Avoid use of salts or cathartics. Take a tablespoonful of mineral oil every night, three hours or more after eating. Eat bran muffins and drink plenty of water as further aids to relief from constipation.

Frequent general baths and rubbing down with a coarse towel are essential. Exercise daily to the extent of causing gentle perspiration. Get lots of fresh air day and night. Be sure the teeth, tonsils, and nasal sinuses are all right.

Bathe the affected parts with water as hot as can be borne. Then squeeze out the blackheads with a sterilized hairpin or watch-key. Do not use great force and do not remove too many at one time. Open any pus-filled pimples, using a sterilized needle for the purpose.

Apply some healing lotion. The following may be used twice a day: Milk of sulphur, water, and alcohol in equal parts, to which may be added one-tenth part of gum mucilage.

If there is much irritation, benzoated oxide of zinc ointment may be applied.

BRIGHT'S DISEASE AND THE KIDNEYS

(KNOWN ALSO AS NEPHRITIS)

WHAT TO DO IN AN ATTACK

1. Put the patient to bed.
2. Give lots of water, lemonade, and water with bicarbonate of soda.
3. Limit the diet to milk and water until the doctor arranges a diet to fit the case.
4. Consult the doctor frequently.

THE blood coursing through the inside of the human body is like a stream of water running through a great city. The stream may be pure and sparkling to begin with, but pretty soon it becomes contaminated, muddy, and foul. In similar manner, the blood would become saturated with poisons of one sort and another, if it were not for certain cleansing methods and machinery.

The chief organs for this purifying process are the kidneys. Differing from most other organs, in that they produce practically nothing themselves, they are concerned solely in the cleansing of the blood stream.

The kidneys, two in number, are planted in the small of the back, beneath the loins, one on each side of the spinal column. Each kidney is about four inches long and weighs a quarter of a pound or more. The substance of this organ is made up of a complicated system of minute tubes. These open into a hollow space in the interior, known as the pelvis of the kidney. This cavity is drained by a tube or duct called the ureter. The ureter is more than a foot in length and conveys the urine from the kidney to the bladder.

In health the kidneys perform their function without a hitch. The poisons are carried away, dissolved in the urine,

and the blood is kept pure and normal in its constituents.

It is quite a common thing to have these organs affected after an illness of some sort. For instance, scarlet fever, diphtheria, measles, and other diseases may be followed by nephritis, as inflammation of the kidneys is called. Chlorate of potash, turpentine, corrosive sublimate, alcohol, and other poisons may cause kidney inflammation.

General inflammation of the kidneys is called Bright's disease, named after Dr. Richard Bright, an English physician who first described this disease, nearly a hundred years ago. There are two forms of Bright's disease, the acute and the chronic.

In the acute form, there is a paleness and puffiness of the face, swelling of the ankles, pain in the back, and fever. Sometimes chilliness, nausea, and vomiting may be the first symptoms. Changes in the urine are always present and are to be determined only by an analysis.

In the chronic form there may be chronic indigestion, progressive loss of weight, ill health, and loss of strength. There is a peculiar waxy, pasty appearance of the skin, puffiness of the eyelids, and swelling of the ankles. Headache is an early and continued symptom. Blindness, partial or complete, may result from hemorrhage in the retina of the eye. The hemorrhage may occur in the brain, with paralysis of the limbs.

As a rule, the blood-vessel walls become thick and hard. The blood pressure is increased, and the artery at the wrist feels hard and full. High blood pressure is one of the first and most important symptoms of nephritis.

Hardening of the arteries is called arteriosclerosis, and is always associated with kidney disease. It is much disputed which comes first, the nephritis or the arterial hardening. For our purpose it makes no difference; if one comes, the other will follow anyhow. What we want to know is how to avoid both.

Overeating is the original sin, and rapid living the added crime of modern times. Great meat eaters are in danger of Bright's disease. Late hours, cocktails and whisky, mid-

night suppers, strenuous mental work with insufficient exercise, loss of sleep, excessive fatigue—all these are factors.

In the acute form the patient should be put to bed. Under no circumstances should he be about. In view of the failure of the kidneys to do their work, the skin must be made to act freely. Sweating is an essential feature of the cure. Lots of plain water, lemonade, and alkaline water are indicated. Needless to say, the diet must be greatly restricted, limited perhaps to milk alone.

The medical treatment should be conducted by the family doctor.

After fifty, the average person can no longer play tennis with safety. You must give up baseball playing and go in for less strenuous sports. Likewise, you must treat your stomach and kidneys with the greatest consideration. Brittleness of blood-vessel walls is to be feared; so to avoid hemorrhages into brain or eyes, temperate muscular exertion is indicated.

It is to be regretted that society has come to fear Bright's disease and to classify it with cancer and other so-called incurable diseases. This is silly. With care in diet and bodily habits, one can live a long and useful life, even when the victim of this disease. The simple life with proper dietary regulation will permit one to go forward in his usual vocation and to compass a reasonable span of life.

(See also *Hardening of the Arteries.*)

BRONCHITIS AND BRONCHIAL ASTHMA

WHAT TO DO

1. Correct constipation, if present. (See chapter on Constipation, Part II.)
2. Correct nasal catarrh, if present. (See chapter on Nasal Catarrh, Part II.)
3. See that the sufferer has plenty of fresh air, day and night.
4. Have him live in as even a temperature as possible, both in and out-of-doors.
5. See that he avoids dust and smoke and observes scrupulous cleanliness.
6. Keep the general health in good condition.

ONE of the recurring and disagreeable diseases of old age is bronchitis. Sometimes it is associated with bronchial asthma, when it becomes particularly uncomfortable and even dangerous to life.

Bronchitis of adults is more common in persons past middle life. Some persons seem susceptible to the disease and are liable to frequent attacks.

City conditions predispose to it. This is true of cities where no effort is made to control the smoke. There is no excuse for having a city covered by a pall of dense smoke. There are smoke-consumers and improved methods of burning even the poorest brands of soft coal. A little care will prevent this evil.

In certain communities no effort is made to lay the dust of the streets. This irritating, choking stuff is permitted to blow in clouds and carry misery wherever it goes.

There are certain industries where gases are generated, and when these are breathed into the lungs there is irritation of the tissues which may end in an attack of bronchitis.

On account of the irritating air of the cities, persons who can afford it run off to the clear air of the mountains or seashore just as soon as they feel the oncoming of an attack.

Of course, there must be a certain susceptibility, or irritating substances would have no more effect on the person with bronchitis than they have on the rest of us. Personally, I am satisfied that back of the average attack of bronchial asthma is poisoning from food, dust, or failure of elimination of the body wastes.

Show me a coughing, rattling-chested, asthmatic old person, and I will show you a person who suffers from chronic constipation or from indiscretion in eating.

Nasal catarrh is often associated with bronchitis. Neglected teeth and diseased gums are other factors to be considered in the condition. Wherever large quantities of pus germs are found anywhere in the head there may be attacks of bronchitis.

Winter-time and the changeable weather of spring and fall are bad for the patient susceptible to bronchitis and asthma. The more uniform the weather, the better for the sufferer.

If you are subject to bronchitis or bronchial asthma, you must take pains to keep your living-rooms at a fairly uniform temperature. There may be a certain degree of enervation in the steam-heated house, but there can be no doubt that even temperature is a great protection against acute attacks of the bronchial diseases.

One subject to such attacks should take pains to keep his body scrupulously clean. His nose and throat should be cleansed. (See chapter on Catarrh, Nasal, Part II.) The organs of elimination should be made to function properly.

Needless to say, the condition of the heart and of the other organs is an important factor. Bronchitis is an obstinate disease, and bronchial asthma is even more stubborn. In order to overcome either, there must be careful study of all the possible causes. The surest guarantee of safety from attack is to give attention to all those simple rules of hygiene which make for good health. Exercise, simple food, fresh

air and attention to the needs and functions of the body should protect against bronchitis and bronchial asthma.

(See also *Bronchitis, Acute Catarrhal; Catarrh, Nasal; Cold, Why We Should Not Neglect a Common; Constipation.*)

BUNIONS AND BURSITIS

WHAT TO DO

1. In acute cases, apply hot-water compresses or soak the foot in hot water for twenty minutes twice a day.
2. If there is ulceration, apply balsam Peru to the part.
3. Protect the inflamed joint by wearing a bunion plaster, or by cutting a hole larger than the bunion in the shoe and covering it with a soft leather.
4. For chronic cases, make a daily application of a seven per cent solution of iodine.
5. See that the shoes fit properly.

SOME of the muscles of the body end in strong, fibrous cords called tendons. In several places these tendons pass over bones. In such a spot some sort of bearing to avoid friction and discomfort is necessary. For this purpose a little sac filled with fluid is provided. This permits the tendon to glide over the bony surfaces and allows it to perform its function with perfect ease. In other places prominent bony elevations are protected by similar devices. Such a sac is called a bursa.

There is no structure or part of the body that is not liable to inflammation. Abuse or injury is certain to be followed by inflammation somewhere. The bursæ are no exceptions to the rule. So bursitis, as it is named, is met occasionally. Bursitis, then, is inflammation of one of the bursæ.

Bursitis is invariably due to injury of some sort. It may come from a kick or blow. Too often it is the result of the long-continued wearing of poorly fitted shoes. Perhaps it is the result of some heavy object falling on the foot or of somebody stepping on it.

Any of the prominences over the toe joints may be affected. It sometimes involves the whole or the top of the foot. Wherever there is a bursal surface there may be inflammation.

The form of bursitis which is most common is inflammation of the bursa at the inner side of the base of the big toe. The chronic form of inflammation of this part, where the tissues have become thick and hard, is commonly called a bunion.

The form of the inflammation varies. It may be acute, in which event the part is red, swollen, hot, and painful. It hurts to use the foot, to step on the foot, or to wear the shoe.

In the chronic form the symptoms are less noticeable. The foot gradually enlarges, without great pain, or active inflammatory reaction.

In bunion or any other form of bursitis, the first thing indicated in treatment is removal of the cause. If any part of the foot is inflamed, attend to the shoe at once. More unnecessary misery is due to poorly fitting shoes than to almost any other invention of modern times.

Pressure must be taken off the bursa. This may be accomplished by cutting a hole in the shoe. This hole should be considerably larger than the bunion, and it may be covered by a piece of soft leather to render it inconspicuous.

A bunion plaster may be worn. This is a ring of thick fabric, which is pasted on the foot, surrounding the sore spot. It takes pressure off the bursa.

Strapping with adhesive plaster may distribute the pressure in such a way as to relieve the symptoms.

Hot-water compresses may be applied, or the foot may be immersed in water as hot as can be borne for a period of twenty minutes twice a day. In acute cases this will give considerable relief.

In chronic cases a seven per cent solution of iodine applied locally once a day may be helpful.

If ulceration occurs, balsam Peru will sometimes assist healing.

Without correcting the foot-gear, there is little hope of cure. Every person, from early childhood, should wear the proper shape and size of shoe. This practice will make bunions unknown conditions.

CAR SICKNESS

WHAT TO DO

1. In persistent cases have the eyes, including the eye-muscles, examined.
2. If this does not show the cause, have the ears examined.

PERHAPS you have noticed at a moving-picture show that you have felt sick at your stomach. You may have imagined that your food has turned against you. In most instances, however, nausea appearing under such circumstances is caused by eye trouble.

Lots of folks, even those who commute every day, suffer more or less from nausea, headache, and occasionally, vomiting, whenever they ride on the cars.

Car sickness differs somewhat from seasickness. The latter is due to the peculiar effect of the "swells" or "long rolls" of the sea upon the internal ear.

What are called the semicircular canals of the internal ear are certain spaces filled with fluid. They act as a spirit-level to determine our place in space. The pronounced movements of the ship on a rolling sea make undue demands upon these organs, and the symptoms of seasickness develop.

To some extent, the same causes operate in producing car sickness. But in this condition there are other more important factors. The most common of these is eye strain and lack of balance of the eye muscles.

It is perfectly natural to read on the cars, or to spend the time looking out of the windows at the rapidly shifting scenery. In either case you are under the necessity every moment of changing the focus of your eyes and of turning them in different directions. The same necessity exists in looking at a moving-picture screen.

These experiences bring to notice the least failure of accurate adjustment of the focusing and turning power of the eyes. Strain which would hardly be noticed in the ordinary uses of the eyes becomes very unpleasant and results in all the symptoms of what we call car sickness.

In car sickness, as in seasickness, it is hard sometimes to be sure the trouble isn't a plain case of indigestion. Seasickness, which is much more pronounced than car sickness, is unmistakable in that the face and ears of the victim have a peculiar greenish, almost transparent, appearance.

In persistent car sickness the eyes should be examined to see if glasses are needed. This test is not complete unless the muscles of the eyes are tested. The seeing power may be above average, but the muscle adjustment may be very defective.

Should the eyes prove to be all right, then the ears should be examined to see if everything is normal.

There is usually some underlying cause for car sickness, but once in a while an apparently perfectly healthy individual is found who can never swing in a hammock, ride backward on the cars, or get on a train without nausea. For such there seems to be no cure, but the average case can be overcome as I have suggested.

(See also *Seasickness.*)

CATARRH, NASAL

WHAT TO DO

1. Spray the nose very gently night and morning with a solution of three grains of camphor, three grains of menthol, in one ounce of albolene.
2. If the spraying does not give relief, make a tampon by twisting layers of cotton about a wooden toothpick until it is about the size of a cigarette, letting the cotton project a quarter of an inch over the end of the pick to protect the tissues of the nose.
3. Dip the tampon in a ten per cent solution of argyrol. Have the sufferer hold his head level and push the tampon straight back, keeping it horizontal.
4. Apply to both nostrils and leave in place for half an hour, catching the black discharge on cotton or gauze.
5. Remove the tampons, have the sufferer blow his nose on the gauze, and spray out the nostrils with a five per cent solution of baking soda or of salt, or with a solution made of three grains of camphor, three grains of menthol, in one ounce of albolene.
6. Repeat this two or three times a week.

PROBABLY ninety-nine persons out of every hundred, especially in the large cities, have more or less catarrh. The prevalence of the disease has made it a favorite condition to be discussed by the makers of nostrums and "cures." More "catarrh cures" were on the market a generation ago than almost all other remedies combined.

When one has a cold the lining of the nose gets inflamed. This means that the blood-vessels are swollen. As a result of the extra blood supply, the glands of the lining membrane are overactive and the secretions are increased.

When the cold has run its course, the swelling disappears,

the blood-vessels resume their normal size, and the patient is well.

Suppose you have one cold after another. Before the first cold is ended, another is taken. You can see what will happen. The blood-vessels will lose their elasticity and remain swollen. As a result, the tissues in the nose will be chronically overworked. There will be so much mucus that it will run out of the nose, requiring the frequent use of the handkerchief. Also, the mucus will run back into the throat, requiring coughing and hawking to remove it.

Opening into the nose are several cavities, called the nasal sinuses. These, too, are lined with mucous membrane.

The inflammation of the nasal lining extends to the sinuses. These fill with mucus. The result is the amount of mucus is enormous, and endless numbers of handkerchiefs are required to clear the nose.

Bad as are the symptoms of catarrh, the trouble would not be so serious if it were to stop here. But the catarrhal condition extends to the ears and into the throat. It affects the general health. It makes the victim unhappy because he is a nuisance to others, and he is shunned by others because of his constant hawking and spitting and nose blowing.

What can be done for catarrh?

In the first place, avoid it by taking care of every cold. Never neglect what is too often considered a matter of little consequence. "Great oaks from little acorns grow." Great ills come from neglected colds.

Cleanliness of the nasal tissues is essential. To this end, use an atomizer, not the douche.

Using a douche is like stroking the hair of a cat the wrong way. The tissues of the nose are made up of cells that have hair-like coverings, and using the douche irritates them beyond reason.

The solution to be employed is a matter of individual choice. Any of the flavored alkaline spray solutions is satisfactory. Or you may make one of baking soda, salt, and water. Three grains of camphor and three grains of menthol in one ounce of albolene make a good solution.

Spray the parts, pressing the bulb four or five times on each side of the nose. Then, gently, very gently, blow out the fluid. Do this night and morning.

If the spraying does not bring marked improvement after a week, or several weeks—according to the length of time the condition has existed—buy at the drug store a small roll of surgical cotton and two ounces of ten per cent argyrol solution. Take a wooden toothpick and twist about it layers of the cotton, making a tampon about the size of a cigarette. Let the cotton project a quarter of an inch over one end of the stick, so as to guard the point of the toothpick and thus to prevent sticking it into the tissue of the nose.

Dip the tampon in the argyrol solution and insert it into the nose. Hold the head level and push the tampon straight back, keeping it horizontal. Surprising as it may seem, the nasal passage does not run up; it runs straight back.

Apply tampons to both nostrils and leave them in place thirty minutes, catching the black discharge on squares of cotton or gauze. Usually there is a lot of sneezing.

Remove the tampons, and after blowing the nose on the gauze, spray out the nostrils with any agreeable solution. A five per cent solution of soda or of salt is all right for this purpose.

Repeat this treatment two or three times a week.

If you do not improve after a few weeks, see your doctor. He will suggest such further treatment as is indicated.

Right living from early childhood will prevent catarrh. The neglected "snuffles" of babyhood result in the hearing-horn of old age. The chronic coughs of old folks are the sequels of uncared-for colds and the mild catarrhs of early life.

(See also *Cold, Why We Should Not Neglect a Common.*)

CHICKEN-POX, OR VARICELLA

WHAT TO DO IN AN ATTACK

1. Send for the doctor at the onset of the attack.
2. Keep the victim from school and from the rest of the family, in a well-ventilated room.
3. Spray the affected parts several times a day with a solution of three tablespoonfuls of hyposulphite of soda to one quart of water.
4. After the crusts have formed, apply oxide of zinc ointment.
5. Keep the sufferer in bed and restrict the diet for several days, according to the doctor's direction.
6. Boil all toilet articles, handkerchiefs, and bedclothing used by the sick person.

CHICKEN-POX is an acute disease, the chief sign of which is the formation of small blisters on the skin.

The time of incubation from exposure to attack is from two to three weeks. It may be only ten days, but is usually about fourteen or fifteen days.

This disease rarely attacks adults, but it should be borne in mind as one of the conditions which may be confounded with smallpox.

The onset of the disease may be announced by a chill, by pains in the legs and back, or by vomiting.

The eruption appears within a day of the first symptoms of illness. Usually this is noticed to begin on the chest or back. Perhaps the face and forehead may be attacked first.

Red spots, slightly raised above the level of the skin, are the primary indication of chicken-pox. In a short time the covering of these spots seems to thin. The tissue fills with fluid, and pretty soon it becomes a blister.

After a day or two, the clear fluid of the blister becomes

cloudy, the swelling begins to shrink, and by the end of the fourth day it has dried down into a crust. This crust is dark brown in color, and pretty soon it falls off. Usually no scar is left, although at times there is infection of the skin and considerable scarring. This is apt to be the case if the child scratches the skin.

There may be several crops of the eruption breaking out here and there during the first three or four days. There may be a few spots or a hundred or more. Sometimes a red rash precedes the eruption.

At times the lining of the mouth or throat may be the seat of the infection.

In grown persons the disease may be very severe. In children it is sometimes followed by inflammation of the kidneys.

It is thought that the discharges from a chicken-pox patient, especially from the blisters themselves, and from the mucous membranes of the mouth, throat, and nose, may carry the infection. There is danger until all the scabs have disappeared.

The child should be excluded from school, of course, and kept away from other members of the family. All the toilet articles, handkerchiefs, and bed clothing should be boiled.

If there is much itching, hyposulphite of soda, three tablespoonfuls to a quart of water, may be used to spray the affected parts several times a day.

Oxide of zinc ointment may be applied to the crusts after they form.

Rest in bed for a few days and restricted diet will hasten recovery.

COLD, WHY WE SHOULD NOT NEGLECT A COMMON

WHAT TO DO

To treat the attack:

1. See chapter on Chills and Colds, Part I.

To prevent attacks:

1. See chapter on Coryza, Acute, Part II.
2. Keep the victim, as far as possible, from contacts that would communicate the infection to others.
3. If attacks are lingering or frequent, consult the doctor.

"TAKING cold," as we call it, is proof that the victim of the cold is below normal. He is overworked and tired out; he has abused his stomach; he has neglected to be regular in his habits; he has worried unusually; he has been too much indoors without sufficient ventilation; he has neglected to get the proper amount of sunshine and exercise. One or more of these sins must be charged against him. Possibly he is guilty of all of them.

The reason the cold hangs on is that the resistance of the patient is low. It was so low that he "took cold," and it is so low that he cannot throw off the ailment.

A cold should be recognized as a warning. It is one of Nature's danger signals. When one finds himself with a cold he should make an examination of himself to find out, if possible, what is wrong. If the fault lies in some easily recognized and readily corrected error, well and good. But if the cold hangs on and the cause is not easily found, one should consult the family doctor at once. Many a serious and even fatal illness would have been avoided if this course of action had been followed.

While the illness, in a majority of cases, is a cold, there is a chance that it may be something more serious. It may be typhoid fever, or pneumonia, or some other serious disease. Whether any illness follows the run-down condition or not depends upon the number and the activity of the disease germs that are met when one is under par. We are in constant contact with germs, but when we are well and strong they are harmless. It is only when we have neglected our bodies and weakened our resistance that germs are to be feared.

What germ is responsible for the so-called common cold is not known for certain. It is believed, however, that some germ causes it. On this account, we believe that colds are contagious, or infectious—that they can be passed from one person to another. If colds are contagious, we should avoid persons suffering from them when we are "run down" for any reason. We should also take every precaution against touching to our mouths or noses any substance or article which may have upon it the germs of a cold. Unclean hands are probably the most common means of carrying the cold germs. In no circumstances should the hands be placed upon the lips or the nose unless they have been washed.

Frequent washing with soap and water is a most valuable protection against disease. Immediately upon reaching home from the street, before meals, and always before going to bed, the hands and face should be thoroughly washed and the nostrils cleansed.

With a little care the ordinary cold can be cured in a short time. The patient should get into a tub of water as hot as can be endured and remain, with only the head above the water, for ten to twenty minutes. He should hastily rub himself dry and jump into bed between blankets. Then he should drink a quantity of hot lemonade or other hot liquid. Perspiration will continue for an hour or more, at the end of which time he should get up, rub dry with a coarse towel, and return to bed and to sleep between dry sheets.

If this simple course fails to bring marked improvement, the patient should consult the family doctor.

If these miserable colds would confine themselves to the nose, they would not amount to much. But the trouble with them is that they won't "stay put." They will wander off into the recesses of the nasal sinuses; they will creep up into the ears; they will dive down into the lungs.

Nobody has tuberculosis until he has passed what the doctors call the "pre-tubercular stage." Nature is good to us. She rarely strikes a mortal blow until she has given us due and timely warning. Tuberculosis is preceded by a run-down condition. Almost invariably there is a history of a neglected cold and of repeated colds. The soil is prepared, and then the dread germs of tuberculosis take root.

So it is with the ears. The same kind of inflammation produced in the nose by a cold creeps along the Eustachian tube and attacks the mucous membrane of the middle ear. There is such swelling of the lining of the tube as to cut off drainage. Then the secretions dam up in the ear, pressing on the delicate tissues, and causing great pain. Finally, the accumulation is so great that the fluid breaks through the drum of the ear, resulting in a "running ear."

The next step is the arrival of a pus-producing germ. It finds its way through the middle ear and into the mastoid cells. The victim goes to the hospital for a mastoid operation.

The bones of the face are hollow. Under the cheeks, base of the nose, and around the eyes are large cavities, or numerous small cells like honeycomb. These are called the nasal sinuses. Between some of these and the brain cavity is a layer of bone, like paper in its thinness.

A neglected cold, in its stage of "ripeness," may invade these cavities, causing sinusitis. The particular cavity beneath the cheek is called the antrum. This may fill with pus. In the late stages of a cold, if the teeth begin to ache, you may suspect involvement of this cavity. If you have a violent pain over one eye, coming on every morning and growing worse till night, you are probably in for sinus trouble.

The eyes may become inflamed. You see all the organs of the head are in danger if you neglect a cold. This fact should warn you that a common cold deserves your imme-

diate attention. Early treatment of an infection of this sort will spare you days of suffering and danger.

All conditions of the influenza type yield quickly to proper methods of treatment. The first essential is the warmth and quiet of the bed. It may seem silly to go to bed for so simple an ailment as a cold, but it is worth while, because by doing so you will cut short the attack.

You should make more or less of a prisoner of yourself for the sake of your own immediate family. If you keep away from your loved ones, you guard them against disease. Your eating utensils must be boiled and your toilet articles kept out of the way of other people.

If you stay away from business, don't go to a moving-picture show to fill in the time and, incidentally, to infect a lot of your neighbors. Home and bed should be the rule.

I wish I could impose this rule upon everybody who has a cold. There can be no doubt that the happiness and health of this world would be materially increased if it were enforced.

The Golden Rule is indicated here, if anywhere. With pneumonia or typhoid fever you are forced to go to bed, because you simply cannot stand on your feet. But here is a trouble with which you can drag yourself about and with which, unfortunately, you usually do go about, to your own detriment and to the danger of your associates. You go on street-cars, filling the air with the spray from your coughing and sneezing, and thus you infect dozens of persons with whom you come in contact. The Golden Rule demands another course of action.

If we could measure the sum total of lost efficiency due to colds, I am sure we would have a very potent argument for finding some sure means of preventing them. When one pupil in a school, one workman in a factory, or one girl in an office or shop comes down with a cold which is nursed at business, instead of at home, it is only a matter of a few days when any susceptible person in the establishment will be affected similarly.

It is safe to assume that efficiency is lessened at least

fifty per cent during the acute stages of a cold. The employer of several persons could well afford to pay the wages of an employee and insist on her staying home during the illness. Such a course would pay in the long run, because it would prevent an epidemic of colds in his establishment.

(See also *Catarrh, Nasal; Chills and Colds; Coryza, Acute.*)

COLITIS, MUCOUS

WHAT TO DO

1. Regulate the diet, omitting foods containing "roughage" and giving light meals four or five times during the day.
2. See that the sufferer has an abundance of fresh air and sleep and is kept as free as possible from mental and physical strain.
3. Consult the doctor.

DISEASES are like fashions. Certain ones will enjoy a certain popularity, only to be replaced by something new.

Just now mucous colitis is an ailment which seems very prevalent. Perhaps it is common because of our modern forms of food or of our modern ways of living. Whatever its cause, there appear to be many cases.

The signs of mucous colitis are not unlike those of common diarrhea, except that the stool contains strips and strings of slimy mucus. There may be paroxysms of colic.

The patient is worried, restless, and may give every appearance of illness. He may even be a chronic invalid.

The acute attacks sometimes alternate with constipation. Indeed, chronic constipation may produce the irritation which results in the inflammation of the lining of the bowel.

The name colitis means inflammation of the colon—the lower bowel, or large intestine.

This disease is very obstinate and does not readily yield to treatment. One reason for this is that the patient is likely to be nervous and constantly worried over his condition. There are enough pain and colic to keep him uncomfortable and conscious of his disease. The result is that his mind is on himself much of the time, and he becomes so depressed that his general health suffers.

This creates a vicious circle. There is ill health to begin

with. Then, as a result of ill health, there is worry, and, as a consequence, more ill health.

Every indiscretion in eating and every excitement brings on an acute attack of colic and a flare-up of the chief disturbance.

The pain is usually on the left side of the abdomen, near the lower ribs. Sometimes this region is tender to pressure.

Almost every patient with colitis has had constipation to start with. Constipated persons are always looking for a "cure." Unconsciously, doctors find themselves mentioning this or that as "curative" in constipation when we really mean that the suggested prescription is a remedy for the relief of the immediate symptom of constipation.

It must be remembered that the failure of regular and complete bowel movement is the product of underlying defects in the economy of the patient. His vital forces are defective or not functioning. By rectal injection or by the use of petroleum oil, or by the taking of salts, the bowel may be emptied. But what scientific mind would declare that to be the end of the constipation? It has temporarily relieved the overloaded reservoir, but the causes are there the same as ever. Until these are found and removed, the patient is far from being cured.

The original constipation may be replaced in colitis by occasional attacks of diarrhea. Both conditions, opposite as they are, are the effects of the same cause. This may be outrageous diet. What some persons put into their stomachs and call food is one of the wonders of modern life.

There were many sacrifices made during the World War, but I never felt that the food restrictions should be so considered. The simpler food, the reduced meat consumption, and particularly the enforced eating of coarse breadstuffs, were all a Godsend to American stomachs. If I had my way the Hooverized dietary would be forever perpetuated.

The treatment of colitis begins with the correction of the diet and eating habits of the patient.

In my experience, in these cases it seems very important to exclude substances irritating to the bowel. To this end,

the food should be prepared in such a way as to eliminate harsh, indigestible things.

It is surprising how much material is taken into the stomach which is unchanged during its passage through the body. Much of what we call "roughage," like the fiber of vegetables, acts as a brush to clear the intestines. But if the lining membrane is inflamed and tender, this brushing may be harmful.

To escape this danger, cereals, fruits, vegetables, and other foods which may contain coarse material of this description should be strained. The victim of mucous colitis can eat almost any food which is prepared in this manner.

Perhaps I might help you by suggesting some articles to be given in this condition. For breakfast, for instance, you might try a strained cooked cereal, toasted bread, or Holland rusks. Stewed apples, pears, and prunes, provided they are strained, may be a part of the meal. Add cream to the cereal and to the coffee substitute.

Meals should be moderate in the quantity of food eaten, and perhaps may be a little more frequent than custom prescribes. Therefore, at ten o'clock a piece of toasted bread may be given.

The midday meal may begin with cream soup. This will be followed by chicken or lamb chop, macaroni, and strained vegetables. Junket, rice, sago, tapioca, farina, or bread pudding, with cream, will supply the dessert.

At four o'clock toast may be given, and the evening meal should be like the breakfast. At all meals limit the consumption of water and give no iced beverages of any sort.

Then the daily life of the victim must be studied. He should have outdoor exercise, fresh air at night, plenty of rest, and recreation.

The medical treatment must be directed by the family doctor, but unless the patient helps him by abstaining from the harmful practices that have been followed, the doctor can do little for him. With the coöperation of patient and doctor, this obstinate disease may be conquered.

(See also *Constipation; Diarrhea.*)

CONSTIPATION

(KNOWN ALSO AS COSTIVENESS)

WHAT TO DO

1. Have the sufferer take his meals at regular hours.
2. Give simple, well-cooked food.
3. Avoid foods unduly rich in fats and starches.
4. Add bran muffins and stewed fruits to his diet.
5. Give two tablespoonfuls of bran daily. Sprinkle it over the cereal, or mix it up with water to be drunk.
6. Give coarse breads, such as whole wheat and graham, with meals.
7. Have the sufferer get plenty of fresh air and out-of-door exercise.
8. See that he sleeps in a well-ventilated room.
9. Give a tablespoonful of mineral oil daily. This should be swallowed when the stomach is empty—either at night, three hours after eating, or a full half-hour before breakfast. If the patient does not like the oil, give it in the morning, washing it down with the juice of an orange.

PERHAPS the most common ailment of the human family is imperfect bowel action. Many persons are constipated from earliest life to the end of their careers. This is particularly true of those who are engaged in sedentary pursuits.

There are many factors entering into the production of constipation. First, there are the gross physical causes. Anatomically, the construction of the bowel is such that the fecal stream does not flow readily. A great mass of waste material accumulates in the cecum, as the blind end of the bowel is called, and, in order to expel it from the body, Nature must exert undue effort upon the constrictor muscles of the intes-

tine. Too often these muscular attempts fail to lift the load, but, when continued long enough, may break the resistance of the valve between the cecum and the small intestine. When this happens, the waste material which has rested in the cecum until it has become a reeking and fermenting mass, is forced back into the small intestine. The walls of the small intestine, made for the greatest degree of absorption, begin at once to extract harmful and even poisonous material from the feces.

Fermentation, gas formation, interference with digestion, and physical discomfort follow. Physical health is impossible with an abdomen so filled.

Improper use, or rather the wrongful non-use of the abdominal muscles, is another factor in promoting constipation. It is a fault, more commonly observed in men than in women, to permit the abdominal muscles to relax and thus to encourage the development of "pot-belly." It is only because of the neglect of a few weeks of watchful attention to overcome a wrong habit that this unsightly and harmful deformity is permitted to continue.

When the abdominal walls relax, becoming pendulous and non-resistant, the part of the bowel crossing the abdominal cavity, known as the transverse colon, drops down, folds over on itself, and produces what is known as "an intestinal kink." This produces another obstruction to the flow of the fecal stream.

It grieves me always to have a friend tell me of daily headaches, "sour stomach," inability to concentrate on his work, and the dozen and one other symptoms of modern life. Too many of us have discomfort in the stomach an hour or two after eating, belching of gas, eructation of mouthfuls of food, loss of appetite, and bad dreams.

If the average person is asked about the bowel movement, the answer is: "Fine, a perfect movement every morning."

The popular idea is that one "good movement" per day indicates the height of digestion and perfect health. Has it never occurred to you that the movement of to-day may be the waste of food taken several days ago, and possibly last

week? Have a definite time of day for evacuating the bowels.

The movement of the fecal stream may be so labored and slow as to be almost imperceptible. A movement a day won't keep the doctor away.

Wrong eating is responsible for other cases of constipation. Cattle are provided with a lot of "roughage," coarse food, to give substantial material to the intestinal content and thus to give the intestinal walls real substance upon which to act. The predigested and delicate foods of the modern chef are too unsubstantial for the intestinal good.

To correct long-standing disability of this sort, first attention should be given the general soundness and robustness of the body. Unless you are whole and hearty, elastic and vigorous in your voluntary muscles, you cannot expect the muscles of your heart and digestive organs to show great power.

When you study your body and functions and use common sense regarding them, you will have a better time and increase your chance of long life.

There is one thing we must not forget: The body is not a train of cars; it is not a chain of separate links. The body is a living thing of many vital and necessary parts. If one part is gone, the whole thing dies. If one part lags, the whole system suffers.

The first essential in treating constipation is to restore general muscular vigor. There are a few measures which really assist and many which give temporary relief, but no cure is to be expected until the muscular tissues of the whole body are normal in tone and quality.

Let us assume for the moment that the constipation is thoroughly established. We will forget the wrong posture, the unscientific choice of food, and all the other bad habits. How can immediate relief be afforded?

Nothing is more damaging than habitual resort to laxatives. The bowel may easily be made a slave to drugs. Instead of being cured, the condition is made worse by such treatment.

Petroleum oil or liquid paraffin is a mineral. It is not

absorbed by the system any more than a pebble would be. It acts by its presence merely as a lubricating agent, and by "greasing" the intestine, permits the fecal mass to slide forward and in this way to be quickly expelled.

In constipation the stool is usually large, dry, and hard. Where the petroleum is used, it is small and moist, and easily expelled. Usually, too, the bowel action is increased, perhaps to the extent of two or three extra movements each day.

Wrongly used, petroleum may interfere somewhat with digestion, not permitting the intimate contact of the gastric juices with the food. On this account, it is best taken two or three hours after eating. A tablespoonful at night will go far towards correcting constipation. Several good products are on the market, and there is little choice between them.

To overcome constipation of long standing, follow these simple rules: Have your meals at regular hours. Eat simple, well-cooked food. Avoid foods unduly rich in fats and starches. Add bran muffins and stewed fruits to your diet. Take two tablespoonfuls of bran daily. Sprinkle it over your cereal, or dissolve it in water and drink it. Eat coarse breads, such as whole wheat and graham, with your meals. Get plenty of fresh air and outdoor exercise. Sleep in a well-ventilated room.

(See also *Appendicitis; Colitis, Mucous; Diarrhea; Gall-Stones; Ulcer of the Stomach.*)

CORNS AND CALLOUSES

WHAT TO DO

1. Soak the feet in warm water, then dry and apply twice a day a solution of a drachm of salicylic acid to an ounce of collodion. Carefully paint it on the top of the corn, or callous spot, being careful not to let it get on the unaffected parts.

MECHANICAL irritation long continued produces definite effects. Everybody knows that the rubbing of a poorly fitting shoe will produce a corn on the abused toe.

Likewise, callouses appear on the soles and heels of people who stand long hours. From using the plane, the carpenter has thickening of the skin of the thumb and index finger.

The violinist has callouses on the finger-tips of his left hand. The harp player has the same condition in both hands.

The washerwoman rubs her arms over the top of the tub and in this way develops callouses of the forearms.

The manicurist uses the palm of her hand as a nail-polisher and thus encourages thickening of the skin. The oarsman, the tennis and baseball player, and other sportsmen may be likewise affected.

Lathe working, harness-making, bookkeeping—no matter what the calling—may produce certain definite effects.

Corns and callouses will disappear if pressure and irritation are taken away. They may be removed by applying salicylic acid. This is the basis of many "corn cures." It is prepared by dissolving one part of salicylic acid in eight or ten parts of collodion. This makes a good preparation: One ounce of collodion and one drachm of salicylic acid. Usually a little cannabis indica is added, but this is unnecessary.

The mixture is mopped on the callous. It dries immediately and begins its work. Soak the part thoroughly the next

day and apply again. In a few days the thickened skin will peel off, or may be taken off by scraping.

A corn may be removed by wrapping the toe with adhesive plaster. Likewise, any callous will disappear if protected for a time in the same way.

There is a special form of plaster prepared with oxide of zinc. This is particularly good for treating corns or callouses.

It is difficult to get a skilled workman to use any sort of protecting device. He takes pride in his work and despises armor, as David did when he went after Goliath. But callouses become annoying and, in cases of infection underneath, add to the complications. A wise workman will protect the skin against any sort of continued irritation.

It is possible that long-continued irritation may be a factor in the development of cancer. It is rare for a callous to break down into cancer, but nevertheless it is unwise to take any chance. On this account the part of the body exposed to mechanical irritation should be protected.

CORYZA, ACUTE

WHAT TO DO

To treat the attack:

1. See chapter on Chills and Colds, Part I.

To avoid attacks:

1. Have the sufferer sleep in a well-ventilated room.
2. Give simple, nourishing food.
3. See that he has plenty of sunlight, indoors and out.
4. Require regular outdoor exercise.
5. Avoid constipation. (See chapter on Constipation, Part II.)
6. Have him wash the hands frequently and wash the face and entrance to the nostrils with soap and water before retiring.
7. Give scrupulous attention to the tooth-brush.
8. Insist upon frequent general baths.

THERE are varieties in colds, just as there are different types of pneumonia and typhoid fever.

When you begin to sneeze and your nose runs hot fluid, you don't know whether you have influenza, measles, catarrhal fever, or an ordinary cold. Each of these ailments begins with the same symptoms.

There is a condition which begins with a distinct chill or a feeling of chilliness, sneezing, and headache. The head and legs sometimes feel as if you had been pounded.

This sounds like the start of a bad cold, doesn't it? Well, it can be considered as a form of cold, but it is classified by the doctor as acute catarrhal fever. Most of us call it acute coryza.

This disease is due to an infection of the lining membrane of the nose and throat, and sometimes of the voice box and bronchial tubes. It is in reality a germ disease. Usually it is caused by the Micrococcus catarrhalis, the germ of

catarrh. There are other germs which are capable of producing similar changes in the tissues and the same symptoms.

There is no use getting scared of these germs, because they are always surging around. You can't escape them. They live in almost every nose and throat and stand guard over the tissues, waiting for a chance to cause trouble.

Germs are like garden seeds. They require the right soil, the right conditions of warmth and moisture, the right sort of weather. Unless all the conditions are favorable, they do not thrive.

In the fall and spring, when the weather is fitful and uncertain, the germs of coryza are happy. They grow strong and dangerous. Then it is that epidemics occur and multitudes of the population suffer.

You see such epidemics are lesser examples of the terrible 1918 epidemic of influenza. But this particular disease is not to be feared as is influenza, because pneumonia does not join it, as it does influenza. It is the complicating pneumonia which makes the latter so dreadful.

The further symptoms of acute coryza are like those of the common cold, except that they are more pronounced and that fever is an invariable accompaniment. The disease runs its course in five or six days.

A hot bath and bed are the best advices I can give as to treatment, but I want you to live and guide your actions in such a way that you won't get an attack.

Lots of sleep in a well-ventilated room, simple eating, care of the bowels, and outdoor sunlight and fresh air will do more than medicine. Wash your hands frequently, wash your face with soap and water. On your return from business and before retiring, wash out the openings of the nostrils. Take particular care in the use of the tooth-brush. Take frequent baths. Avoid sudden chilling when overheated. These are the secrets of protection against acute coryza and against a whole army of other diseases.

(See also *Catarrh, Nasal; Chills and Colds; Cold, Why We Should Not Neglect a Common; Influenza.*)

COUGH, DRY

WHAT TO DO

1. Consult the doctor to find the cause.
2. Remove the cause.

EVERY once in a while we see an article about the evils of coughing in public places. These discussions relate to the annoyance to the listeners and to the danger of spreading disease.

There are two kinds of coughs—dry cough and "productive cough"— cough with expectoration. All coughs are disagreeable to those who listen and, for that matter, to the afflicted one himself. Of course, there is ample excuse for the productive cough, because there is material which must be removed.

Most of the dry coughs, or "irritant coughs," as they are called, are unnecessary. They do no good and may actually cause harm to the sufferer.

There are a lot of causes for dry, irritating, useless coughs. In looking it up, I was surprised to find how many separate and distinct causes there are for coughs. One authority enumerates twelve such causes. I want to speak of some of them.

In certain forms of heart disease, the blood is not handled properly by the heart. As a result, the blood is dammed back into the lungs, causing congestion and irritation. Then there comes the impulse to cough. As you see, there is nothing needing expulsion. There is stimulation of the nerves and the feeling that one must cough to get rid of the irritant.

We hear about "stomach cough"—a cough due to undigested food in the stomach, or to intestinal disturbance, possibly to intestinal worms. Children sometimes wake up

in the night with this variety of cough. There will be spells of dry coughing like cramps or whooping-cough.

You will be surprised to know that irritation in the ear may produce coughing. When wax accumulates in the ear and there is made an attempt to remove it by syringing or by the use of instruments, a sudden and uncontrollable cough is not unusual. This is called the "ear cough."

Some throats and bronchial tubes are very sensitive to the slightest irritating vapor, to dust, and to smoke. When most of us would be entirely unconscious of the presence of some chemical irritant in the air, these delicate mortals go into paroxysms of coughing.

A dry cough may be due to pure nervousness.

Inflammation of the brain coverings, especially at the base of the brain, may have a dry cough as one of its signs.

These are some of the many causes for this irritating symptom. If you are the frequent victim of this kind of cough, have your doctor tell you why. The treatment will suggest itself often in determining the cause.

(See also *Adenoids; Cold, Why We Should Not Neglect a Common; Tonsils, Enlarged.*)

DEAFNESS

WHAT TO DO

To prevent deafness:

1. See that colds are never permitted to linger. (See chapter on Chills and Colds, Part I.)
2. Avoid or promptly treat adenoids or nasal catarrh, if either develops. (See chapters on Adenoids and Nasal Catarrh, Part II.)

To treat deafness:

1. Consult an ear specialist.
2. If poor health is responsible for the condition, a change of climate may be beneficial.

NEGLECT of nasal symptoms in babyhood or childhood is the history of most cases of adult deafness. With lack of nasal cleanliness has come the development of adenoids. These, in turn, have stopped up the Eustachian tubes, the passages which lead from the nose to the ears and are intended to give air and drainage to the middle ear.

Gradually the condition produces thickening of the mucous lining of these tubes and of both ears. Then the drums become thickened, the joints of the little bones in the ear become stiffened, and, gradually but surely, the acuteness of hearing disappears.

Catarrh is responsible for these uncomfortable results. The origin and progress of catarrhal deafness should warn each of us against neglect of the early nasal symptoms.

A cold should not be permitted to "hang on." If it does not respond to treatment as it should, something is wrong. Nasal discharge should not persist. If it does, see your doctor at once.

Douches are unsafe methods of cleaning the nose. An atomizer may be used to advantage. It matters little what

solution is selected. Any alkaline solution, or one of the many pleasantly flavored preparations on the market, may be employed. Spray the nose thoroughly and very, very gently blow out the secretion, blowing one side and then the other.

In acute conditions argyrol or any of the colloidal silver preparations may be applied on cotton to the nasal passages.

When deafness is actually present, it requires the attention of the ear specialist. He has ways of opening the closed Eustachian tubes and of massaging the stiffened ear tissues.

The question of climate is frequently raised in discussing deafness. If one has the so-called "dry catarrh," he is better off at sea level, or in any moist climate than he would be elsewhere.

In catarrhal conditions where there is an abundance of mucus secretion, dry climates like North Carolina, Arizona, Minnesota, or any district away from moisture may be helpful.

On general principles, however, I believe that treatment by a good aurist or in a first-class dispensary is more likely to prove beneficial than removal to another climate. Deafness is rarely benefited directly by such a change. If poor health is at the bottom of the trouble, a change of residence may improve the health and thus better the deafness.

Deafness is sometimes due to an accumulation of wax in the ears. This can be easily removed by the doctor.

(See also *Adenoids; Catarrh, Nasal; Chills and Colds; Earache.*)

DIABETES

WHAT TO DO

1. Consult the doctor.
2. Adhere strictly to the diet agreed upon by the doctor.
3. Have the teeth and eyes examined and attended to.
4. See that the sufferer sleeps in a well-ventilated room, takes a daily bath, is kept comfortably warm, and is kept as free as possible from worry and mental strain.

MANY a person has been condemned to a life of mental anguish and unhappiness because the urinalysis report showed sugar. The public has been taught that sugar in the urine indicates a serious and hopeless disease—diabetes.

This impression is most unfortunate. In many cases the presence of sugar in the urine, or even in the blood, is a temporary condition. It may indicate a relatively unimportant trouble, called glycosuria. The cause of this passing disturbance may be an unbalanced diet. Perhaps the food has been overrich in sugar and starch.

In diabetes, as in every form of sickness, it is necessary, first of all, to keep the patient free from worry. It makes no difference whether he be suffering from acute or chronic diabetes, the prospect of cure or control should be kept before him.

Careful attention to the general health, moderate exercise, and a diet free from carbohydrates are essential.

You will recall that sugar and starches are grouped together chemically and are called carbohydrates, but do not misunderstand about the diet. Great harm can be done by too rapid withdrawal of the carbohydrates. It must be done gradually.

In diabetes there is a failure on the part of the body to

utilize and appropriate the sugar which is taken. It accumulates in the blood and seriously interferes with the normal action of that vital fluid.

The result of this disturbance is similar to the effect of a slow-acting poison. The victim runs down, loses flesh, and may become blind.

Under certain conditions there is such profuse poisoning that stupor and even total loss of consciousness are observed.

Naturally, this disease has held the attention of medical men and research workers. Recently Dr. Banting of Toronto astonished the world by the announcement of his remedy, insulin.

Insulin is not a cure for diabetes. It is an agent which makes it possible for the body to handle the carbohydrates. When it is taken every day the diabetic goes along as well as anybody. It must be taken regularly, however, and persistently. This discovery has stimulated renewed study of the disease.

Diabetes is one of the obscure conditions. Just what causes it and where the original trouble is are matters of dispute among doctors. All agree, however, that it is a disease requiring care and which, if neglected, will result seriously.

This is one of the diseases likely to be overlooked.

Sometimes I think we talk too much about our real or imaginary ailments. It must be admitted, however, that more widely spread knowledge of certain diseases would make for the good of mankind. It would drive to the doctor in time for cure, many patients who now report too late.

So it is with diabetes. Early recognition will enable the victim to begin treatment at a favorable stage.

If you are thirsty every ten minutes, have to get up several times every night, and are constantly losing flesh, you have a group of symptoms to be looked upon with suspicion. These are signs of diabetes. Examination of the urine will reveal, not only a great increase in quantity, but also the presence of sugar. The normal quantity of urine for a healthy person is about one quart in twenty-four hours. In

diabetes the amount passed will be two or three quarts, or even a gallon or more.

With such an escape of fluid, it can be understood why there is a tremendous thirst. The amount of water consumed every day is proportionate to the amount discharged.

Stomach symptoms are met. The most common is the increased appetite and especially the craving for sugar and starches and fats. There may be marked dyspepsia and every symptom of indigestion.

The skin may show boils and pus-capped pimples. Almost invariably there is intense itching. The whole body or certain parts may itch terribly.

Headache, neuralgia, stupor, and, in advanced cases, profound unconsciousness are uncomfortable symptoms.

There may be cramps in the calves of the legs or elsewhere.

The eyes may show trouble. Inflammation of the various parts or cataract and blindness may result from diabetes.

More common than all the other symptoms, except the urinary changes, are the loss of strength and continued loss of flesh. The collar will be found many sizes too large for the narrowing neck, and accustomed exercises will prove too wearisome.

In the treatment, first consideration must be given the diet. On general principles, sugar and starchy foods should be avoided.

Nuts and fruit, gluten bread, and certain fresh vegetables may be eaten. Tea and coffee, if they are used, should be sweetened with saccharin instead of sugar. Lean meat, eggs, and oatmeal may be taken.

These are but suggestions, and every patient should advise with his physician regarding his dietary. Experience will enable him very soon to choose food adapted to his needs and powers of digestion.

Plenty of sleep in a well-ventilated room, a daily bath, and plenty of bodily warmth are indicated.

The teeth are apt to decay rapidly in diabetes, and on this account, they should be given frequent and special attention.

Worry and mental overwork are great factors in producing the condition. Diabetes is a disease watching every chance to attack the tired business man. The victim must adapt his mental condition to his physical necessity and stop worrying. Mental poise must be cultivated; it is essential to cure.

This condition is more serious in children or young persons than in those in middle life. A person past fifty may have the symptoms for years and years and yet preserve fairly good health.

The worn-out business man who submits to the right treatment will be returned to his former health.

It is not pleasant to be told, after an examination for life insurance, that you are a bad risk and have been rejected on account of diabetes.

After the first shock is over, determine to follow the advice of your physician, confident that care and patience will be rewarded by a return to useful health and strength.

Dr. Allen, formerly of the Rockefeller Institute, worked out a system of fasting and dieting which has attracted wide attention as a means of controlling the disease in the great majority of patients treated. After taking the treatment, by careful regulation of the food intake and habits, the afflicted person may look forward to a reasonably long life.

I shall describe in a general way the Allen method. This is done, not with the idea that any diabetic reader may apply the method in his own case, but to give the patient an intelligent idea of what is expected of him when he asks his doctor to supervise such a course of treatment.

Any method of cure involving strict dieting and the exclusion of much-longed-for articles of food is not easy to follow. It takes character and will-power to win out in such a fight, but your life is precious and the sacrifices are well worthwhile.

First, the patient is required to go without solid food until the urine is free from sugar. Clear broth, coffee, and tea are allowed. This stage of treatment is ended when a twenty-four hours' sample of urine shows no sugar.

After this, vegetables, fruit, potatoes, oatmeal, and, finally, bread are given. If the urine remains free from sugar for two or three days, eggs and meat are added to the dietary.

When sugar returns, complete fasting must be practiced for twenty-four hours, or more, if the sugar does not disappear.

After the condition appears to be under control, there must be one fast day each week, or, at least, there must be a partial fast or a day of restricted eating.

You will see that this is a pretty strenuous method of cure, but it is worthy of a trial, provided your family doctor agrees. Without his coöperation and laboratory oversight, no progress can be made. He will be glad to help you, if he considers the treatment applicable to your case.

Here is a list of the foods which, as a general rule, may and may not be safely taken by a person suffering from diabetes:

Eggs, meat, milk, nuts, vegetables (except those named below), fruit, gluten breads. These beverages are permitted: Broths, buttermilk, skim-milk, Kumyss, mineral waters. Potatoes and baked beans may be eaten very sparingly. Do not take peas, tomatoes, corn, smoked or salt fish, crabs, shrimp, liver, fried meat, flour, breads (except gluten), onions, pastry, ice-cream, rice, sago, honey, sugar, cream, chocolate, cider, ale, beer or gin.

DIPHTHERIA

WHAT TO DO

To avoid an attack:

1. Have the Schick test made to find whether or not the child is susceptible to diphtheria.
2. If the test shows him not to be immune, have him vaccinated as a protection against the disease.

To treat the attack:

1. Send for the doctor, who will advise antitoxin at once.
2. Keep the sufferer isolated, and burn or boil all articles used by him.

MOST diseases, as they are now understood, have been studied and named in modern times. A few have been known for hundreds of years, but knowledge of diphtheria runs away back through the ages. The disease was mentioned in the Babylonian Talmud and was accurately described in the first century.

Diphtheria is a terrible disease. I do not hesitate to speak in the frankest terms of its ravages and fatalities, because it is a preventable disease. One may soften the story of inevitable and unescapable disease, but when there has been given a means of protection against the attack, we may frankly picture the dangers of a given condition. I am glad to do this in regard to diphtheria, if for no other reason than to drive you to the doctor for appropriate treatment to guard you from infection.

It is not long ago that a means of treating diphtheria was given humanity. Now, something equally wonderful has been determined. I refer to what is known as the "Schick test."

By this test it is possible to determine who are susceptible to diphtheria. Not every one can take diphtheria. Fortu-

nately, many persons are naturally immune to this terrible disease. Only about twenty per cent of persons past twenty years of age are in danger of diphtheria. As a matter of fact, not over thirty per cent of persons past five years are susceptible to it. Of course, a much smaller percentage of persons actually have it, but between the ages of six months and three years, almost three-quarters of the children will have it, if exposed.

Since there is a means of vaccinating against diphtheria and thus protecting the child, it is important to find out whether he needs protection or whether he comes in the twenty-five to thirty per cent group who have been given protection by kind Nature.

When I was a boy, every child used to run a pin through the superficial layers of the skin of the fingers to show that "it didn't hurt." In the Schick test a hollow needle is inserted into the very outside layer of the skin in the same painless manner. A tiny drop of toxin is injected through this needle.

Children susceptible to diphtheria and therefore liable to have it will have what is called a "reaction." That is, the spot where the toxin was injected will turn red and look like the beginning of a pimple, or like a mosquito bite. It will stay red for a week or so.

On the other hand, if the child has natural protection, or "immunity," as it is called, there will be no reaction, no redness.

When there is a positive reaction, the child should be immunized. That is, he should be vaccinated to protect him against the disease. It has been found that when the protecting injections are given, fully ninety per cent are safe and will never have the disease.

Almost one-quarter of the children who have diphtheria between the ages of one and five die of the disease.

Every parent of a young child should discuss this problem with the family doctor. It is too important to overlook.

Diphtheria is one of the most contagious of diseases. The virulence of the poison is shown by the brief period of

incubation, the disease appearing two or three days after exposure.

It is all too common for those who care for patients sick with diphtheria to take the disease. Osler says, "Few diseases have proved more fatal to physicians and nurses."

Diphtheria begins with chilliness, aching of the back and legs, and fever. In very young children a convulsion may be the first sign of illness.

It is not uncommon in any disease for a young child to have a convulsion when an older person has a chill. This is a good thing to remember, because a young mother is apt to be very much alarmed if her baby has a "fit," as it is commonly called. Really, such a convulsion means no more than a chill.

In the beginning of diphtheria the throat is sore. Swallowing may be painful. Pretty soon there are patches of membrane on the tonsils and sides of the throat. On the third or fourth day the entire surface of the throat may be covered with a grayish, dirty-colored membrane. This may be thick and leathery. It clings to the tissues underneath, and, if it is pulled off, a bleeding surface is left.

The temperature is not so high as in tonsilitis. This may help to distinguish between the two diseases. In diphtheria it goes to about 103 degrees. The pulse is rapid, reaching 110 or 120 degrees.

In severe cases there is a profound poisoning of the general system and pronounced illness of the patient. The face is pale and grayish. The breathing is disturbed, and the victim gives every evidence of serious sickness.

It is very common to have paralysis as one of the complications of diphtheria. Paralysis of the throat, paralysis of the eye muscles, and occasionally paralysis of the heart are met.

When a child has sore throat with any sort of membrane, there should be an immediate laboratory examination of the discharge. Until the report is received, he should be kept away from the rest of the family.

The employment of antitoxin has revolutionized the treat-

ment of diphtheria. The earlier it is given the better. If delayed until the third or fourth day, it is of doubtful value.

Sprays, steam inhalations, and swabbing will promote comfort. The patient must be sustained by nourishing food. The family doctor will give the essential medical care.

(See also *Disinfection and Fumigation; Sore Throat.*)

ECZEMA

(ALSO KNOWN AS SALT-RHEUM)

WHAT TO DO

1. Give a tablespoonful of mineral oil every night, three hours after eating.
2. Apply a solution of three tablespoonfuls of hyposulphite of soda to a quart of water, to relieve the itching.
3. As a protective agent, apply benzoated oxide of zinc ointment.
4. If crusts have formed, make a poultice of four tablespoonfuls of starch to half a tablespoonful of boracic acid. Dissolve with a little cold water, and then add a pint of boiling water, stir briskly, and let cool. Spread the paste on gauze and apply to the encrusted surface. After a few hours, when the crusts have softened, they can be removed without irritation.
5. Let the sufferer abstain from starches, sugar, and coffee, eat simple food, and add bran muffins to the diet.
6. Consult a doctor to find the cause, and have it removed.

IT is rare, indeed, for any person to go through life without some skin blemish. The fairer the skin and the rarer the eruption, the more it annoys when it does come.

There are many forms of inflammation of the skin. The commonest type is called eczema, or salt-rheum.

Like any other inflammation, the first symptom of eczema is redness. The affected part is red at all times, but under excitement, irritation from rubbing or scratching, exposure to heat, or after violent exercise, the redness is increased.

Little blisters form on the skin and, as these break, there is more or less moisture on the affected surface.

Later, scales and crusts take the place of the blisters.

With it all, the affected part itches, especially when the redness is increased from any cause. At times the itching is almost unbearable.

It is difficult to tell the difference between simple inflammation of the skin, called dermatitis, and true eczema. The former is due to some outside irritation of the skin, and eczema is due to some internal cause.

An example of dermatitis is the inflammation of the skin of the ear caused by the awkward use of a hair brush. Here is a difficulty due to a known external irritant. In eczema there may be similar symptoms, but there is no mechanical cause to explain the condition.

The eczema may be confined to the face or to some part of the face. The face seems to possess three zones: The upper third of the face is the forehead, the middle third takes in the cheeks, nose, and upper lip, the lower third is the chin. When eczema attacks this region, while it may involve the whole face, it usually confines itself to one of the thirds.

Other forms of eczema attack the arms, legs, or the body itself. Sometimes it comes on the hands, between the fingers, back of the ears, or in the bends of the legs or arms. It may involve the scalp or other hairy portions of the body.

Any skin blemish is probably an evidence of lowered resistance. It may be the outward and visible sign of a poorly working stomach and intestines. These red blotches may be the danger signal of Nature. They may indicate her protest against abuse of the digestive organs. They may mean that the kidneys are failing in their work.

It matters not whether the patient is a grown person or an infant, the presence of eczema should direct attention to the condition of the bowels. If constipation is present, it should be corrected. A tablespoonful of petroleum oil for an adult, given on retiring, will be helpful.

Excesses in food, highly seasoned food, abuse of alcohol, midnight suppers, and all indiscretions in diet are productive of eczema, and must not be permitted if cure is to be had.

The "run-down" person is often troubled with this dis-

ease. Overwork, loss of sleep, worry—anything that produces nervous exhaustion—is a sufficient cause for eczema. Tired-out persons should be warned by the skin eruption.

If you have a tendency to eczema, you must take as good care of your skin as you would of the fine veneer of a grand piano.

Some skins are so sensitive that certain waters will irritate them. It may be necessary to use cistern water or distilled water or water that has been softened with borax.

Soaps must be chosen with care and may have to be omitted entirely. Try this, that, and the other soap until you have hit on one that does not irritate. Castile is one of the mildest of soaps. If no soap seems to suit, use uncooked oatmeal instead. When I was a boy and had badly chapped hands, my mother used to give me uncooked oatmeal for cleansing purposes, instead of the irritating and painful soaps.

If the hands or face chap easily, you should be careful to dry the skin thoroughly after washing and apply powder or glycerine.

When thick crusts form, they may be removed by a poultice made of boracic acid and starch. It is prepared just as paste is made. Mix together four tablespoonfuls of starch and half a tablespoonful of boracic acid. Add a little cold water and stir until the powders are dissolved. Then pour on half a pint or more of boiling water, stirring briskly in the meantime.

After it has cooled, spread this paste on gauze or thin cloth and apply to the encrusted surface. After a few hours, the crusts will be so softened that they can be removed without irritating the tender skin.

The itching may be relieved by application of ordinary baking soda dissolved in water. Oxide of zinc ointment may be had at the drug store, and is frequently a means of relief. Sometimes oxide of zinc is mixed with coal tar and used to dry up the blisters of eczema.

One of the most efficacious remedies for itching of the skin is hyposulphite of soda. Use three tablespoonfuls to a quart

of water. If the whole body itches, place a cupful or more in half a bath-tub full of water and get into the solution. It will add greatly to your comfort.

In every case the family doctor should be consulted. He will determine whether or not the kidneys or other organs require attention.

(See also *Hives and Other Skin Troubles Due to Food and Drug Poisoning.*)

EPILEPSY

WHAT TO DO IN AN ATTACK

1. See that the victim cannot hurt himself.
2. Place a rolled-up handkerchief between the teeth at the side of the mouth to prevent tongue biting.
3. Do not try to use restoratives, as for fainting.

WHEN I was a boy in the primary school there was a classmate who used to have a "fit" two or three times a month. The whole schoolroom was thrown into disorder. Teacher and pupils were on edge for half a day afterward. My first idea of being a doctor came from the care I was called upon to give that poor boy. For some reason, I was assigned to this duty. So my earliest memory of disease is associated with epilepsy.

The word epilepsy is from the Greek and means *seizure*. It well describes the sudden and violent attacks of this terrible disease.

Epilepsy is a nervous disturbance, which manifests itself by periodical attacks of unconsciousness and is accompanied usually by convulsions.

The victim has some sort of warning of the attack and may utter a loud scream or a terrible groan. He falls to the ground, kicking his feet, clenching his hands, frothing at the mouth, and possibly biting his tongue. The eyes roll upward and the face turns purple.

In a few minutes consciousness returns and the patient falls into natural sleep. Usually he awakens feeling perfectly normal, although there may be some mental dullness for a time.

In another form there may be no convulsions. The attack may consist merely of a temporary loss of consciousness.

The victim of epilepsy may be perfectly normal between attacks. Indeed, epileptics are often far above the average in intelligence and ability. But they never know when they will be stricken down by one of their dreaded spasms.

It is generally believed that epilepsy is due to undue drainage of nerve energy. We have just so much energy, and unless this is carefully husbanded, trouble will follow. If the place of leakage can be found, there is bright prospect of cure.

I have seen wonderful improvement in a few cases by correcting the abnormal eye condition. If there is eye strain from the need of glasses, or if the patient is wearing the wrong glasses, correction of the difficulty will be most helpful. Sometimes the eye muscles are out of adjustment. The eyes are not working together; there is no "team work." In such cases the oculist can accomplish wonders.

Intestinal trouble, abscessed teeth, or other pus condition may be responsible for the attacks. Every such patient should be carefully examined for any upset in his digestive system.

The out-of-door life, simple living, good food, plenty of sleep, a well-ventilated bed-room, and plenty of exercise—all these will build up the body and strengthen the nervous system.

The hereditary causes back of the constitutional types are, as yet, puzzling to the medical profession, but epilepsy is under such painstaking study that probably not many years will pass before this is included in the list of preventable diseases.

(See also *Fits.*)

ERYSIPELAS, OR ST. ANTHONY'S FIRE

WHAT TO DO IN AN ATTACK

1. Paint the affected parts with a twenty to fifty per cent solution of ichthyol in water, or with an ointment of twenty to forty per cent of ichthyol in vaseline.
2. Apply a solution of hyposulphite of soda, three tablespoonfuls to one quart of water, to relieve the itching and discomfort.
3. Consult your doctor.

IN olden times the name St. Anthony's fire was given to a condition in which there is suddenly inflamed skin, accompanied by swelling, redness, and more or less fever. The disease is more commonly called erysipelas.

Erysipelas or St. Anthony's fire is a familiar disease met everywhere in the world. Sometimes it appears in epidemic form, but usually it springs up in unexpected places. In the best of hospitals, even, it may suddenly appear, to the discomfiture of every surgeon who may have cases there at the time.

The disease is due to a germ, believed to be a special form of the dreaded streptococcus family. All the streptococci are dangerous beasts. Any condition due to, or complicated by, any variety of this germ is to be taken seriously.

The chief symptom of erysipelas is inflammation of the skin. There is also fever and sometimes delirium.

Certain constitutional conditions cause the development of this disease. Bright's disease is the chief of these. General debility and alcoholism are important factors. Following an operation, this condition may be present as a serious complication.

Anything which lowers the powers of resistance of the individual makes him susceptible to the attack of the germ of erysipelas. Lack of food, malnutrition, old age, and debility are all factors. An injury or a trifling abrasion about the nose, mouth, or elsewhere may give entrance to the germs.

Erysipelas is not to be feared when it attacks a person in fair health. When it complicates some other disease or when it comes after a severe injury or a surgical operation, it is more to be dreaded. In old folks and debilitated persons it is more serious than in young and vigorous people. Even when neglected, the average case will recover within a reasonable time, but the head cases require careful treatment.

The period between exposure or infection and the onset of the disease varies from three or four days to a week.

The beginning of erysipelas is like the onset of most communicable diseases. It starts with a chill, more or less pronounced, followed by all the symptoms of fever. There are restlessness, sleeplessness, and sometimes loss of consciousness.

The first change in the skin is observed usually on the cheeks or over the bridge of the nose. At first there is a little patch of red skin. This patch gradually grows larger. The involved surface is swollen and stands out above the level of the rest of the skin. The affected part is hard and it appears glazed and shiny.

The patch of erysipelas is perfectly defined. It does not fade off into the surrounding parts. The edges are distinct, both in redness of color and in swelling.

Sometimes there are little blisters or larger blebs on the inflamed base. In many cases the surface is smooth and shining.

The inflamed surface sometimes itches and burns, but ordinarily there is little pain. If the attack involves the face, ear, or scalp, there is such intense redness and swelling that it surprises you the patient is not suffering more.

Heart or brain disease, inflammation of the kidneys, pleurisy, and even pneumonia are some of the complications which may follow erysipelas.

The seriousness of the disease depends upon the general condition of the patient.

Erysipelas runs a pretty definite course. It may end in one week or last for several weeks. Usually an attack clears up in about ten days.

Many applications have been suggested for the control of the local symptoms. The most common remedy is ichthyol. This may be used as a watery solution, or as an ointment. If in water, it is usually made up in twenty to fifty per cent solution. In ointment form it may be used in strengths of twenty to forty per cent in vaseline. This is painted on the affected parts.

The itching and discomfort are sometimes relieved by hyposulphite of soda, three tablespoonfuls to a quart of water. This may be applied on gauze. A saturated solution of one teaspoonful of sulphate of magnesium to a cupful of water may be similarly used.

Needless to say, the general health should be built up, and any internal remedy which possesses virtues in this direction should be used.

Above all else, guard against the infection of any wound or abrasion of the skin. In this way you will avoid erysipelas.

FLAT-FOOT, OR PES PLANUS

(KNOWN ALSO AS WEAK FOOT AND FALLEN ARCHES)

WHAT TO DO

1. Consult an orthopedic surgeon or podiatrist.
2. See that the sufferer has properly fitted shoes.
3. Have him cultivate a correct attitude in standing and walking, holding the feet parallel, with the toes pointed forward and throwing the weight of the body frequently on the outer side of the feet.
4. See that he practices, twice daily, tiptoe exercises, as outlined in the following chapter.
5. If these measures fail, the doctor will recommend proper orthopedic measures.

THERE is an endless list of aches and pains and partial disabilities, all caused by what is known as flat-foot, or weak foot.

It is easy to see how anything which interferes with natural and free use of the feet in walking should give rise to all sorts of disagreeable symptoms. Whenever you walk, if your foot is thrown out of its natural position, strain is bound to be the result. This strain may proclaim itself in pain extending anywhere from the foot itself through the leg and into the back.

Many a person has believed himself to be suffering from rheumatism, or even some sort of kidney or spinal trouble, when he is merely paying the penalty of walking on a foot which has become too weakened in certain parts of its delicate structure to perform its function properly.

Flat-foot is a displacement of the bones of the foot which receive the weight of the body when standing or walking. As a result the arch is depressed.

There are many causes for this condition. Among them the most common are improperly fitted shoes, such as shoes with excessively high heels, narrow or short shoes, or shoes which do not give necessary support to highly arched insteps.

Other causes are improper attitude, particularly turning the feet outward in walking, and weakened muscles and ligaments due to exhausting illness, poor health, old age, rapid growth in a child, overweight, prolonged standing on hard floors, corns and bunions, and specific diseases.

The first measure to take in the treatment of flat-foot is to get properly adjusted shoes. These ought to have broad, low heels, ample space for the toes, and the inner side of the sole and heel about a quarter of an inch thicker than the outer side.

The next measure is to cultivate a correct attitude in standing and walking. The sufferer should throw the weight of the body frequently upon the outer side of the feet while standing, and should walk with the feet held parallel and pointed forward with the weight on the outer side.

The third measure is to practice tiptoe exercises twice daily. The sufferer stands with the toes pointed inward and slowly raises and lowers himself upon the toes, descending with the weight on the outer side of the heels.

If these measures do not give relief, it will be necessary to strap the foot with adhesive plaster, or to place it for a time in a cast, or to use other mechanical appliances. Your doctor will advise you regarding such treatment.

Even after the condition has been corrected, the person who has once suffered from flat-foot must give close attention to the selection and fit of his shoes and to the cultivation of a proper attitude in standing and walking, if he is to avoid a return of the trouble. It will also be a wise precaution for him to continue to practice the tiptoe exercise regularly once or twice a day.

GALL-STONES

WHAT TO DO IN AN ATTACK

When attacks of indigestion give suspicion of gall-stones:

1. Regulate the diet, avoiding excess of fats, sugar, pastry, and other starches. Include vegetables and plenty of water, also alkaline mineral waters.
2. Correct constipation. (See chapter on Constipation, Part II.)
3. Enjoin a simple, regular life with gentle exercise and plenty of rest.
4. Give soda salts, such as phosphate of soda, one tablespoonful to a glassful of water.

When acute pain is present:

1. Send for the doctor.
2. Assist the sufferer into a tub of water as hot as can be borne, or apply a hot-water bottle or a towel wrung out of hot water and covered with a dry towel, to the right side.
3. Give as a laxative a tablespoonful of mineral oil or olive oil.

THE gall-bladder is a hollow sac located under the liver and immediately in contact with it. It is in reality a part of the liver. It is shaped like a pear, is three or four inches long, and stands with the thick part upwards. This sac is capable of holding about an ounce and one-half of fluid.

The contents of the gall-bladder are discharged through a duct or canal about two inches long. This is not an open tube, but its lining is thrown into folds, making an arrangement not unlike a spiral stairway in a tower. This drainage canal joins with a similar canal from the liver, forming what is called the

"common bile duct." This is the size of a goose-quill, is about three inches long, and empties into the intestine.

The bile accumulates within the gall-bladder. During the digestive process the bile flows through the complicated drainage system I have described into the intestines, where it has a part in digestion.

One of the normal constituents of bile is cholesterin, a white, glistening, fatty, crystalline substance. This is taken from the blood in which it is found normally, and the quantity extracted depends on certain conditions. For instance, if there is marked congestion or inflammation of the gall-bladder or its ducts, more cholesterin appears to be absorbed by the bile.

What causes such irritation or inflammation? The most common of the direct causes is the presence in the gall-bladder of microbes or germs.

If you know anything about germs, you will see at once that a warm, moist place, like the gall-bladder, offers a splendid breeding-place for microbes. If they once gain entrance here, they multiply rapidly. A number of germs—the bacillus of typhoid fever, the diarrhea germ, the pneumonia germ, and several others—have been found in the gall-bladder. It is not uncommon for persons who have had typhoid fever to harbor typhoid germs in the gall-bladder for years after they have recovered from the disease. A notable example is "Typhoid Mary," the famous case dealt with by the New York City Board of Health.

Of course there are other things which assist in producing conditions favorable to the development of gall-stones. Anything which interferes with the free escape of the bile is one of these. Tight corsets and any occupation which requires constant stooping will cause stagnation of the flow of bile. Neglect of exercise, quiet occupations, and abuse of the stomach are other important factors. Overeating, constipation, and lowered vitality must be considered.

Under this combination of conditions, much more than the normal amount of cholesterin is extracted from the blood.

One of the germs or a group of them in the gall-bladder or the spiral canal may act as the nucleus, and upon and around this center gradually collect a layer and other layers of the cholesterin. Just as any salt in a saturated solution will deposit on the neck of the bottle, so the cholesterin deposits and continues to do so until a good-sized grain or stone is formed.

There may be one large stone, several good-sized ones, or a myriad of very small ones. They may be like grains of sand, or a single stone may be large enough to fill the whole gall-bladder.

Many books have been written about gall-stones. The subject has attracted the attention of surgeons, laboratory workers, and hundreds of medical men. It has worried many a layman. Fortunately, the established facts prove it is a condition which need not keep us awake nights. It can be safely dealt with, if necessity demands action; in the majority of cases, it can be borne without treatment; and it can be avoided by the observance of the rules of simple living.

We rarely find gall-stones in young people, almost never before twenty-five. More than half the cases appear in persons past forty, and usually in women, especially in women who have had children. It is stated by some authorities that almost all women past sixty have gall-stones.

I speak of the prevalence of gall-stones, not to alarm you, but to reassure you. The condition is very prevalent, as you see, but it is rarely troublesome.

Indigestion is a common and early symptom of gall-stones. Chronic dyspepsia, especially with pain in the right side, gives warning of the trouble. There may be a feeling of fullness and weight in the region of the liver. Faintness, sickness at the stomach, and a catch in the side are other symptoms. Gas formation, bloating, belching of food, and distress after eating should lead to the suspicion of gall-stones, if the symptoms continue for months.

If the gall-stone remains in the original location, it is unlikely to cause annoyance. If stooping, a blow in the side, or any other cause, moves the stone, it may get caught in the

canal, or tear the tissues enough to excite trouble. Should the damaged tissues become infected, there is serious difficulty at once.

The passage of a stone through the gall-duct or the common bile duct is likely to cause pain. It may produce what is called "biliary, or gall-stone, colic." In these cases there are violent, cutting, terrific pains, chills, and high fever. Great prostration, sweating, and vomiting are other symptoms. The side becomes tender and swollen.

If the stone lodges in the common duct—the canal which carries away the fluids of gall-bladder and liver—there may be jaundice, and there certainly will be if the stone stays there long. The bile cannot escape, it is absorbed by the body, and colors the eye and skin.

The colic may last for hours or for a number of days. It all depends on the progress of the stone from the gall-bladder to the intestines. Fortunately, the attacks of pain are in paroxysms, not continuous. It would be impossible to bear the excruciating pain for days at a stretch.

If the stone lodges in the duct just outside the gall-bladder, it will be followed by swelling of the obstructed bladder. This organ may become enormously distended, forming a large mass.

When the common duct is obstructed and the victim becomes jaundiced, he will have violent itching of the skin. There may be little pain, but marked nausea and vomiting. The symptoms are sometimes like ague—chills, fever, and sweat.

Not many cases are so bad as to result in complete obstruction, pus formation, and rupture. Usually the stone moves along and the symptoms disappear for months or years, until another stone starts along down.

For the acute pain the doctor will administer sedatives, but until he arrives, there is much to do to relieve the suffering. The patient should be assisted into a tub of water as hot as he can bear. This appears to relax the tissues and assist the passage of the stone. Hot compresses over the side and a hot-water bottle will help a lot.

A laxative, preferably mineral oil or olive oil, will be helpful. Alkaline mineral waters are useful.

The diet should be regulated when attacks of indigestion give suspicion of gall-stones. Systematic exercises and regularity of living are indispensable. Soda salts, such as phosphate of soda, are advised as of possible value in dissolving the stones or in preventing their growth.

While the only radical "cure" for gall-stones is operation, it is probable that thousands of persons who have small and unoffending ones never have a symptom indicating their presence. One authority says that ninety-five per cent of persons who have gall-stones never know it. Even when they have been discovered by accident or by reason of thorough examination, they need give no concern unless they produce symptoms which will be unmistakable. In other words, don't worry about gall-stones any more than you do about freckles, a little mole on your face, or a bald spot on the crown of your head. If your particular gall-stones are going to be troublesome, you will be given due and timely warning. Even then, you need not worry greatly, because should an operation be determined upon, you have at least ninety-five chances out of a hundred of a successful result.

(See also *Constipation; Indigestion; Jaundice.*)

GANGRENE AND BED-SORES

HOW TO PREVENT BED-SORES

1. Change the position frequently.
2. Wash the sensitive parts subjected to pressure, several times a day with hot water and a good soap. Dry thoroughly and then rub the parts briskly with a bath towel.
3. If bed-sores develop, call the doctor at once.

THE desire to live is a spiritual or psychical emotion, I suppose, but that it has a physical basis is shown by the marvelous vitality of the body tissues. Given half a chance, Nature will restore the most badly damaged structures. It seems to be the inborn desire of every cell and fiber to live.

There are a few conditions where parts of the body die. Although still attached and in their proper places, they have actually become dead and inert matter.

As a result of terrible scalding, burning, or freezing, or from terrific squeezing or crushing, or from certain diseases where the blood-vessels have become plugged, the toes, fingers, ears, and even the hands or feet may lose all vitality, may actually die.

This condition is called gangrene.

Fortunately, gangrene is not common. It is essentially a disease of old persons. On this account, the ordinary case is called senile gangrene.

The patient complains of coldness and numbness in the feet. His circulation is poor, anyhow, but it will be found that the flow of blood in the affected part has entirely stopped. No pulse can be found, the part gets cold, and pretty soon it turns dark purple or, possibly, as black as soot.

Left to itself, the dead toes or foot will drop off. This form is called dry gangrene.

Of course there are great pain, sleeplessness, and every evidence of illness.

Younger persons who have diabetes may develop moist gangrene. In this form the tissues swell and develop great blisters, and very soon the flesh begins to decompose.

Most of us will have no occasion to deal with such cases of gangrene as I have described. There is another variety which I desire to mention, however, because, knowing about it, it may be within your power, sometime, to prevent its development. I refer to bed-sores.

Bed-sores are spots of gangrene which are found on the back, hips, or buttocks. They develop in patients who have been confined to the bed for a long time.

The strong and vigorous are in little danger, but old, run-down, skinny, and feeble persons who have long-drawn-out sickness are apt to suffer in this way, unless carefully protected against gangrene.

Early attention to bed-ridden patients may spare them months of unnecessary hospital care.

Frequent change of position is demanded in order to take pressure off the sensitive places.

The parts should be washed several times a day with hot water and a good soap. Follow the bathing with brisk rubbing, using a bath towel, and dry thoroughly. Ordinarily these precautions will prevent the development of bed sores.

Should the sores develop, the diseased parts must be carefully treated like any infected wound.

GOITER

WHAT TO DO

1. See that the victim has rest, mental and physical, fresh air, sunlight, good food, and freedom from worry and excitement.
2. Apply hot fomentations to the neck for fifteen minutes at a time, twice a day. Wring a towel out of water as hot as can be borne, pack this over the neck with a dry towel over it. As soon as the wet towel cools, repeat the process.
3. Consult a doctor, who will direct the medical treatment to suit the case.

MANY a young life has been ruined because of untimely submission to disease. It is bad enough to suffer from heart trouble or chronic bronchitis in old age, but the victim has the joyful memory, perhaps, of a long life relatively free from sickness and pain.

I have witnessed the affliction of a number of young women at the time of life when health and vigor are essential, not only to their own happiness, but to the welfare of their little ones. The time will come in this country, as it has in other lands, when the young mother and the prospective mother will be the subjects of greater care than they receive to-day. To provide the nation with vigorous children, there must be healthy and vigorous motherhood.

To accomplish this vital thing, it should be unnecessary for the State to interfere. When public health education has become as far-reaching and as permeating as the education given by the schools, there will be knowledge of health matters in every home. Indeed, if I had my way, education in

health would be made an important and required part of every school curriculum.

Among the ailments which attack young women is a group of symptoms called exophthalmic goiter. It is commonly met between the ages of sixteen and thirty. Of course, it may appear at any time of life and may attack men as well as women. In men the condition is apt to be found later—between the ages of thirty and forty-five.

Most of the sufferers from exophthalmic goiter are highly strung and nervous persons. They come from families easily overwrought.

Sometimes a great shock, overwhelming grief, terrible fright, prolonged illness, or overwork may be the underlying cause. As a result, the nervous system is thrown out of gear and health and prospects are shattered.

The prominence of the front of the neck is due to the size of a large gland called the thyroid gland. In exophthalmic goiter this gland is more or less enlarged. Perhaps the first symptoms of trouble may be the gradually thickening neck.

In simple goiters—the ordinary variety of goiter—the trouble is limited to the thyroid. All the symptoms are due to the enlargement, with its resulting pressure on adjacent parts.

In exophthalmic goiter, among other signs, is a remarkable prominence of the eyes. The eyes are pushed forward, the lids are widely separated, and the patient has what is popularly known as "pop-eyes." The doctor gives this condition a Greek name, *exophthalmos,* meaning "out" and "eye."

Other characteristic signs of this disease are great rapidity of the heart, muscular tremblings, localized sweatings, and, perhaps, falling of the hair. Loss of weight, digestive disturbances, sleeplessness, mental depression, and general misery are accompanying symptoms.

Let me hold out every encouragement regarding the outcome of these distressing cases. They are curable. I have seen aggravated forms of goiter which have disappeared under hygienic and medical treatment.

Your doctor will direct the treatment, and you will find that he will make great use of what we may call the "natural methods"—rest, mental and physical, proper diet, fresh air, sunlight, entertainment, and recreation. (See chapter on Right Living, Part III.)

Hot fomentations are useful in reducing goiter. A towel wrung out of water as hot as can be borne is packed over the neck, and over this is placed a dry towel. When the wet towel cools a bit, it should be dipped again in the hot water. This process should be continued for a period of fifteen minutes twice a day.

(See also *Thyroid Gland and Myxedema.*)

GOUT

WHAT TO DO IN AN ATTACK

1. Keep the affected limb elevated and warm.
2. Apply capsicum vaseline to the painful joint.
3. Give quantities of hot lemonade.
4. Overcome constipation. (See chapter on Constipation, Part II.)
5. Consult the doctor, who will advise a restricted diet.

RICH men, especially English gentlemen, are thought to be the usual victims of gout.

This idea is due to the fact that the disease is associated with rich food, overeating, overindulging in sweet wines and malt beverages, and especially because the tendency to gout is inherited, the same as the title or riches.

Gout is not a local disease, although its immediate and painful effect may be located in the big toe joint, or some other small joint. It is really a constitutional disease, due probably to an excessive amount of uric acid in the blood. These salts are deposited in the joint, and after a while, one or another joint will begin to get sore as a result.

When one of the joints fills up, so to speak, the crystals of uric acid act exactly as would any other foreign body. The joint gets red and swollen. The effusion may go on to ulceration, breaking down of tissue, and the trouble may even result in discharge from the joints of the offending mass.

In other cases the deposits continue until the joints are stiff and deformed. The main attack may be against the great toe, but it may involve all the joints of the ten toes and the knuckles of the hands.

The eyelids, the ears, the arteries, any cartilaginous structures, may be involved. It is not surprising to learn, then,

that arteriosclerosis is one of the common accompaniments of gout.

The attack of gout comes on after a few days of indisposition. There has been constipation, intestinal indigestion, acidity of the stomach, headache, vile temper, loss of sleep, and general prostration.

Suddenly, usually in the middle of the night, the acute attack occurs. There is severe pain in the ball of the big toe. It gets red, swollen, and feverish. It is so tender the patient cannot bear to be touched.

The victim gives every evidence of illness. He may have a chill, but in any event, there are fever, thirst, failure of free kidney action, coated tongue, and great pain.

There is a certain periodicity to the pain. It comes on every night and is better through the day. These paroxysms continue for from three or four days to a week.

The disease differs from rheumatism in that the small joints only are affected, the fever is not so high, and the local pain and tenderness are much greater. Likewise, the periodic character of the pain differs from the continuous pain of rheumatism.

No success can be had in the treatment of gout unless the patient submits to a radical modification of his diet. Stimulants and meats must be materially reduced. Alkaline and lithia waters are indicated, and every attention must be given the associated constipation.

The leg should be raised and kept warm. Hot applications or capsicum vaseline may promote comfort. Much hot lemonade will prove beneficial.

(See also *Constipation; Hardening of the Arteries; Rheumatism.*)

GRANULATED EYELIDS, OR TRACHOMA

WHAT TO DO

1. **Keep the eyes clean and protect them against dust, smoke, glare, and strain.**
2. **Consult the eye specialist and follow treatment persistently.**

ONE of the diseases we used to dread is becoming rare in America. Granulated eyelids is its common name. Trachoma and granular conjunctivitis are other names.

When we were less particular in our quarantine conditions than we are now, lots of these cases came to our shores. The result was that our immigration ports were filled with the disease. Every school-room had its victims. In certain of the mountain regions of the South, in sections where sanitary conditions were neglected, the disease made rapid and serious inroads upon the population.

Scientists have not succeeded in finding the germ responsible for trachoma. This has made the fight against it more difficult. In spite of this, however, a winning war has been waged against the dread disease.

Rigid medical inspection has revealed the disease in its early and curable stages. Insistence by health authorities upon immediate and systematic treatment of every case and education of the public in the danger of trachoma have had the natural results.

Under no circumstances should a parent neglect the symptoms of eye inflammation when they are observed in a young child. Redness, discharge, sticking together of the eyelids in the morning, heaviness, and swelling of the lids—these symptoms do not mean trachoma, of necessity, but they demand attention and medical care.

While it has not been found, there is no reasonable doubt

that granulation of the eyelids is due to a germ. If so, it is a contagious or infectious disease. This means that the discharges from the infected eye are capable of carrying the germs to other persons. Careless use of the toilet articles, especially the soap and towels, may permit one of these articles to convey the contagion.

Dirty and contaminated hands readily carry the germs of disease. Under no circumstances should you rub, wipe, or handle your eyes or eyelids with soiled hands. You are perfectly safe in the presence of trachoma and may even handle the diseased eyelids, as the doctor does. Your danger comes from your own unclean hands. Before you touch anything else, your hands must be washed with soap and water.

In the treatment of granulated eyelids, all you can do for yourself is to keep the eyes clean and to protect them against dust, smoke, the glare of strong lights, and strain from overuse.

The eye specialist will direct the medical treatment. Bear in mind that this condition can be cured, but not by half-way methods. You must faithfully carry out for months and months exactly what the doctor prescribes.

In the meantime, so long as you are under treatment, you may go to school or about your affairs. You will be a safe associate if you master the Golden Rule. So long as you are careful to keep your eye discharges from every article other persons may touch, you are a safe neighbor. So long as your hands are clean and the lids are clean, there is no danger of passing the disease to others.

HABIT SPASMS

WHAT TO DO

1. Find the cause and correct it.
2. After the underlying cause has been removed, have the victim learn to control the habit by reading aloud before a mirror and practicing exercises with phonographic accompaniment.
3. Do not "nag" the victim by calling attention to the habit.

ANY man, woman, or child who is in any way abnormal is at a decided disadvantage. If this abnormality is evidenced by a spasmodic habit of some sort, it is observed by everybody and may seriously impair the usefulness of the victim.

It is not uncommon to see a child winking his eyes convulsively every few minutes. He may shrug one shoulder, lift his eyebrows, bite his lips, stick out his tongue, or do some other conspicuous and annoying thing. The trouble may take the form of coughing, grunting, sniffling, licking, sucking, twitching, or other similar evidence of a disturbed nervous system.

Any embarrassing symptom like this is called habit spasm, tic, or convulsive tic. It begins, perhaps, as a natural attempt to overcome some disagreeable sensation. Through frequent repetition it may become habitual. After a while it is fairly involuntary and cannot be overcome by effort of the will.

Persons who suffer from habit spasms are apt to be nervous individuals. They possess what is called the neurotic temperament. Sometimes they are of the hysterical type. In fairness, however, it must be stated that a good many who possess great mental stability suffer from tics.

Worry, shock, mental overwork, eye strain, and other forms of reflex irritation may result in a tic of one variety or another. Usually, when the affliction is from these causes, it is temporary.

Disease of the gums, teeth, or nose, and tonsillar disease, unhealthy condition of the intestinal tract, worms, and skin irritations are other factors which must not be overlooked.

In the treatment of habit spasms good sense is required. In the first place, the underlying physical defects must be removed. It is easy to say this, but the undertaking is very difficult at times because of the difficulty of locating the cause. But the importance of removing the causal factor I need not emphasize. This is too obvious.

To break the habit itself is a task. Physical exercises are useful. They should be taken before a mirror, so that the reflection gives constant reminder of the tic.

Reading aloud is a good thing for some forms. All the time the eyes should be kept as much as possible upon the mirror. Close observation of this sort helps to control the tic.

Exercise with phonographic accompaniment is helpful. In children the exercise may be made a kind of game.

Much patience is required, but perseverance will be rewarded. It must not be forgotten that the state of the general health is of the greatest importance. There is little hope of speedy or permanent cure unless any underlying cause for ill health is discovered and removed.

In this connection I wish to emphasize the serious effects of intestinal disturbances. There can be no doubt that trouble here may be shown by any number of mental and nervous symptoms. Among such symptoms habit spasms are included.

(See also *Constipation; St. Vitus's Dance.*)

HARDENING OF THE ARTERIES, OR ARTERIOSCLEROSIS

WHAT TO DO

1. Consult the doctor.
2. Have the sufferer take moderate daily exercise.
3. Regulate the bowels. (See chapter on Constipation, Part II.)
4. Stop tea, coffee, and tobacco, and anything containing alcohol.
5. Give a light diet consisting of milk, bread and butter, vegetables, fruit, fish, oysters, meat or eggs in small amounts, and very little salt and fluids.

WE think of old age as a condition associated with advanced years. Seventy-five or eighty is what we have in mind when we discuss this subject.

I once operated on a man for senile cataract who was just past thirty. This patient was an old man.

In the practice of medicine we run across many old men and women who have had but forty-five birthdays. It isn't the date set down in the family Bible which determines old age. It is the condition of the organs and tissues of the body.

Whether you are old or not depends largely on the state of your heart and blood-vessels. If your pump does its work normally, and if your blood runs through flexible and healthy vessels, you are young.

If your blood-vessels become thickened and hard, if your heart overworks or if it flags in its action, you are old. If your blood pressure is much too high or much too low, your body will deteriorate.

It stands to reason that to stay young you must have pure blood, free from the taint of disease. You cannot carouse, take every chance of infection, and be indifferent to physical consequences, without paying the penalty.

But it is not alone sinful neglect of your welfare that results in conditions fatal to the retention of youth. There are other factors almost as important, and yet we merely warn against them. We do not preach against them as we do against the moral hazards.

The time will come, I believe, when men and women will be ashamed of their physical lapses. Preventable bad health will be a reason for ostracism, just as other things are now.

Overeating, overworking, and overworry are the great causes for ill health. They are the great factors in the production of old age. Overeating and overdrinking have been such factors since the beginning, but overwork and overworry are more recent things, so far as universal effects go. The stress and strain of present-day existence are responsible for early old age.

Wrong eating and neglect of the body lead to liver, kidney, and intestinal disturbances. These, in turn, result in the production of poisons which damage the body.

Normally the walls of the blood-vessels are soft and elastic. When you place your finger on the pulse at the wrist, the normal artery is yielding to the touch. It feels not unlike a piece of soft rubber tubing.

In disease the vessel walls become hardened, stiff, and unyielding. Under the fingers they feel like whip-cord.

The change is not unlike the effect of time upon a plumbing system. The pipes become encrusted and occluded. Their capacity is reduced accordingly. Deposits occur on the lining membranes of the blood-vessels, and gradually the changes described take place. Thus develops arteriosclerosis, or hardening of the arteries.

These changes in the arteries interfere with the circulation of the blood. This, in turn, affects the heart, and ultimately, from the blood being confined within lessened capacity for it, increase of blood pressure takes place.

With the hardening of the blood-vessel walls, naturally there comes greater brittleness and greater possibility of their breaking. To the weakening of the containers, add greater pressure of the contents, and it will be seen at once that there

is imminent danger of breaks in the wall and escape of the blood into the outside tissues.

In arteriosclerosis this is what happens, so hemorrhages into the retina of the eye or into the brain substance are liable to take place.

Arteriosclerosis may be said to be a natural condition in advanced life, because it is almost invariably found in old age.

Besides advanced age, there are a lot of diseases that cause arteriosclerosis. Bright's disease and arteriosclerosis seem to be Siamese twins. One is rare without the other, or at least high blood pressure and Bright's disease are boon companions. Lead poisoning, diabetes, gout, rheumatism, malaria, obesity, and syphilis are other causes. Chronic constipation has its effect.

Arteriosclerosis and high blood pressure are responsible for headaches, dizziness, pain in the heart, and many obscure nervous disorders. The severe heart attacks known as angina pectoris or breast pang are frequently due to this condition.

If there is hemorrhage or effusion into the brain, there will be various forms of paralysis, slight or severe, according to the degree and location of bleeding. There may be inability to speak or difficulty in moving the limbs. These symptoms may disappear in a few hours, or may go on to permanent paralysis. The treatment for arteriosclerosis consists in removing the cause, cultivating a cheerful mind, and living a regular, temperate life. Moderate exercise in the open air should be taken daily. Alcohol, tea, coffee, and tobacco should be eliminated. Meats, salt, and fluids should be restricted. The bowels should be regulated. (See chapter on Constipation, Part II.) The diet should be plain and light, including milk, bread and butter, vegetables, fruit, fish, oysters, a little meat taken once a day, or eggs boiled three minutes.

When you know that so many diseases result from rapid or improper living you should take warning against the excesses so fatal to future happiness. Overwork, overworry, overeating—these are the evils we should escape.

(See also *Breast Pang; Bright's Disease; Constipation; Diabetes; Gout; Malaria; Rheumatism.*)

HAY FEVER

(ALSO KNOWN AS SUMMER ASTHMA AND ROSE COLD)

WHAT TO DO

1. Consult the doctor two or three months before the attack is due.
2. During the attack spray the nose with some alkaline solution.
3. Have the sufferer avoid narcotic drugs.

HAY fever makes its first appearance in early life and every summer thereafter reappears to torture its victim.

Sneezing, smarting, burning, and redness of the eyes, hot water running from the nose and eyes, headache, feeling as if a million insects were crawling in the nose and throat, coughing, loss of sleep, asthma, fever, and general feeling of illness —these are some of the symptoms of hay fever.

There is a remarkable regularity in the onset of hay fever. Old-time sufferers can predict almost to the hour when the attack will appear. "August the twenty-second at one P. M." may be the date fixed and, at precisely that time, on come the symptoms.

It is believed that there is a nervous element in the development of this disease. This may account for the appearance of the disease at the predicted time. Fear is usually productive of ill effects.

However, there are physical defects underlying the attacks. For instance, if the nasal tissues were absolutely normal, it is doubtful that hay fever could exist.

As a matter of fact, careful examination of the nose of the hay fever patient reveals a number of sensitive spots in the mucous lining of the nasal cavities.

Then there appears to be necessary a third element, some

external irritating substance. It is commonly believed that the pollen of certain plants—rag-weed, goldenrod, roses, and some of the grasses—is the exciting factor.

Modern medicine looks upon hay fever, hives, and various skin eruptions as bearing some relation to food or intestinal poisoning. Therefore the general health and powers of resistance are possible factors in the development of hay fever.

Change of climate is the most satisfactory means of immediate relief. Northern Michigan, Maine, Canada, and a dozen other geographical points are recommended. A sea voyage, away from the dust and pollen, may ward off the attack.

Treatment of the nasal condition, if begun several months before the expected attack, may greatly modify the symptoms. The irritable points are cauterized and the tissues hardened by treatment.

During the attack various sprays may benefit. Witch-hazel and various alkaline solutions will prove helpful.

Cocaine and narcotic drugs should be avoided.

(See also *Asthma; Coryza.*)

HEADACHES, CAUSES AND KINDS OF

WHAT TO DO

1. Find the cause and correct it.
2. For treatment of the attack, see chapter on Head, Pain in the, Part I.

ENTHRONED in its bony temple, the skull, the brain presides over the nervous system. Through the many branches of this system every part of the body is reached and controlled. Exactly as a train dispatcher sits in his office, directing all the traffic movements of a great railroad, so the brain is the administrator of the complicated nerve lines running from scalp to toe, from heart to finger-tips.

Not only is the brain sheltered by the skull, but it has also, for protection against jolt or jar, its coverings, called meninges. The brain and meninges are richly supplied with blood-vessels and, in normal conditions, life runs on with no consciousness on our part of the activities of this, our most important organ.

Of headaches there are many varieties and many causes. The first of which mention will be made is the congestive headache.

When your head feels swollen and the pains are of a throbbing or bursting nature you have a congestive headache. Your face may be red. Your eyes may be congested. Every step or jar hurts your head. Bright light and noises increase the agony and life seems not worth living.

Usually this headache indicates nothing more than some irregularity of habits, overexposure to the sun, or indiscretions in eating and drinking. Full-blooded persons, or those having high blood pressure, and women with their complex nervous systems, are most frequently affected.

Nervous headaches, so-called, are the headaches resulting from mental fatigue, worry, loss of sleep, or overexcitement.

Any one of these forms of headache may be periodical, coming on every Sunday, once a month, or at other regular intervals.

There is another kind of headache called sick headache. This is accompanied with nausea and perhaps with vomiting. The symptoms may be so severe that to get the slightest relief the patient must go to bed in a dark room. The sick headache may take the form of a migraine—a one-sided—headache. This may be so pronounced as to affect exactly one-half of the head.

Sometimes this disturbance may be a "blind headache," partial loss of vision being one of the symptoms. It is not unusual to have blindness for everything to the right or to the left, as the case may be, together with sickness at the stomach.

Or there may be a "blind spot." On looking at a watch or clock, one or two of the numerals will be blank. The blindness may spread until the vision at one side disappears. In an hour the vision has returned, but there is a dazzling alternation of black and white flashes. In another hour, or less, all the eye symptoms have gone, but there is a disagreeable, dull aching in the head and probably some degree of nausea.

All these varying forms of headache and associated symptoms may be described as sick headache. It is not uncommon to hear them spoken of as "nervous headache," or "bilious headache."

These attacks, no matter what form they take, may come on at regular times—once a week, or in women, once a month. With other persons, there may be no periodicity about the headaches or eye symptoms.

It is my opinion that two chief causes are responsible for these symptoms. Continued worry and fatigue, bodily or mental, come first. Then some toxic condition furnishes the poison essential to the production of the nervous disturbances.

The nervous system is too delicate to withstand the assaults of bodily poisons. If elimination by the skin, kidneys, or intestines is interfered with, it needs nothing more than the

lowered resistance due to a few days of worry, to finish the job.

Regular exercise, sufficient to produce honest sweat every day of the year, is the first consideration in treatment. Add to this a daily general bath, and the skin will do its work.

Drink plenty of water to flush the kidneys and, by occasional examination of the urine, make sure that they are functioning as they should.

Eat simply and add to your diet those articles of food that will insure proper bowel action. Relieve the constipation, if it cannot be prevented.

Cultivate a calm and placid mind.

These are the secrets of the prevention and cure of migraine.

If careful regulation of the diet, regularity of habits, and the correction of any indiscretions do not cause your headaches to disappear, you should make a visit to your doctor.

Probably the most common cause of headaches is auto-intoxication, or self-poisoning by waste products that are absorbed instead of being properly thrown off by the body. This is a condition met with so frequently that we are prone to overlook its importance.

Countless numbers of sufferers from headache have found temporary relief from salts or cathartics, or have resorted to one of the many "headache tablets" or "headache wafers." Some even have sought relief in opium and morphine.

Let me sound a solemn note of warning against all such practices. Drugs or medicines should never be taken without the advice of a physician. The repeated and continued employment of any drug results in addiction to its use.

An addict is a slave, and when once a person yields to the clutch of a habit, he is on his way to serious ill health requiring long and arduous treatment.

The brain demands regular sleep, regular meals, regular exercise, regular practices of every sort. Systematic attention to all functions will speedily find the underlying cause of headache and restore the sufferer to normal life.

No one cause is more prolific of headache than eye strain.

When one passes forty-five or fifty he should visit the oculist once a year or, at least, once in two years. Simply because one can see to read does not prove that there is perfect vision. The effort may be an unconscious one, but any effort to see clearly means a drain of nerve energy. No matter how small the leak, the great reservoir of energy, the brain, will be called upon ultimately, and then will come trouble.

Headaches due to anemia from excessive, prolonged overwork or general ill health are not uncommon. Fainting is a common accompaniment.

The type of headaches called reflex headaches may come from ovarian or uterine disease. In these headaches the pain is apt to be on top of the head.

The headache noticed on waking up in the morning, especially when it is at the base of the nose, may be due to nasal catarrh.

Bright's disease, diabetes, gout, excessive use of alcohol or tobacco, and neurasthenia are other conditions resulting in headache.

The bones of the face are hollow. Under the cheek-bone is a hollow space called the antrum. In the bone over the inner part of the eyebrow and at the root of the nose is a cavity called the frontal sinus. There are other cavities in the honeycombed bones of this region.

All these cavities or sinuses, as they are called, open into the nose. When there is a cold in the head, the inflammation may creep up the passageways into these sinuses and produce trouble here exactly like the trouble in the nose itself.

Trouble in the antrum may show itself by aching which appears to involve the adjacent teeth.

The remarkable thing about the pain in sinusitis is that it possesses a certain degree of periodicity. It comes on along about noon or earlier and disappears at sundown. It differs from the constant pain of an ulcerated or otherwise inflamed eye.

Headache is a danger signal. Do not disregard the red light. Stop at once and find out what is wrong.

(See also *Constipation; Head, Pain in the.*)

HIVES AND OTHER SKIN TROUBLES DUE TO FOOD AND DRUG POISONING

WHAT TO DO

1. Determine by proper tests the food which causes the poison and eliminate it from the diet.
2. To relieve the itching, have the sufferer bathe in water in which hyposulphite of soda has been dissolved in the proportion of a cupful to three quarts of water.

THERE are two kinds of hives. The more common kind is known to the doctors as urticaria, or nettle-rash. In this there are swellings of the skin and terrible itching.

There is another variety, commonly called giant hives and given a great big name by the doctors—angioneurotic edema. In this form there may be but one large and very hard swelling.

It is probable that the chief cause of hives is some kind of food poisoning. The trouble may be due to the decomposition of the waste material within the body and the effect of the toxins or poisons which are sure to develop in putrid masses.

The condition may be caused by eating certain foods which are poisonous to some individuals. You know how poison ivy acts. It is harmless to some and so poisonous to others that to be in the vicinity of the plant is dangerous. The same thing applies to foods. A food which is wholesome and nourishing to nine hundred and ninety-nine persons, may be poison to the thousandth.

There are certain well-known offenders in the food list. Among these are shell-fish and strawberries. But there are many others which are capable of causing real illness to susceptible individuals. This is but a partial list: Eggs,

cream, pork, canned meat, salted fish, mushrooms, tomatoes, pickles, and so forth.

Some food specialists have a system of rubbing into the skin of the arm extracts of many different food substances, until they discover the particular one which is capable of producing disagreeable reaction.

If you have hives, you must experiment carefully. Omit from your diet one single article of the things you usually eat. Continue this omission until you get another attack. You will know then that it is not that particular food which is the exciting cause. Then decide on another food to be excluded in the same way. By patient effort you will hit upon the offender.

Of course, there are other sources of toxic substances. The kidneys, the intestines, abscessed teeth and tonsils, and any other similar disturbances may have hives as a symptom.

You cannot cure hives by any local application. You may relieve the itching and burning, but until you find and remove the cause, there will be repeated attacks.

For the relief of the local disturbance, try hyposulphite of soda, a cupful to three quarts of water. Get into a tub of water impregnated with a pound of the hyposulphite. It will stop the itching quicker than any other substance of which I know.

In the treatment of the skin symptoms due to food poisoning, it is important to empty the stomach and bowels. Warm salt or soda solution will cause vomiting. Salts or some other laxative will clear the intestinal tract. A rectal injection will be useful.

The patient should be put on a restricted diet for a few days. Lots of water, vichy, and milk should be taken.

There are also disturbances of the skin following the taking of certain drugs.

Almost always a suddenly acquired blemish of the skin is a danger signal. Just as the red light on the railroad gives warning, so does the red eruption of the skin. It means something. Certainly, when a given drug causes a skin reaction, this should warn you that the drug does not agree with your

system. No matter how useful it is for others, and how much you need the usual effects of the drug, there is something about your heart or kidneys that interferes with proper elimination.

Even though occasional doses of the particular drug, or repeated doses, have been taken without disturbance, there may be a sudden breaking-out of the skin. This is because the body cares for a reasonable quantity, but, if too much is taken, it is stored up in the system, accumulating quantities which ultimately will produce the skin effects.

It is not always easy to determine, either that the trouble is due to a drug or, if to a drug, what particular drug is at fault. The history of the case may determine it, but in some cases careful study, including testing the urine, may be necessary.

Some of the drugs capable of causing skin eruptions are the following:

A rash resembling measles may be produced by antipyrin, cubebs, opium, morphine, and sulphonal.

An appearance like scarlet fever may follow the use of belladonna, chloral, digitalin, iodoform, mercury, midol, quinine, and salvarsan.

Some of these same drugs may cause hive-like eruptions of the skin.

Erysipelas-like conditions occasionally follow the taking of aconite, bromides, and iodide of potash.

Pigmentation of the skin may be produced by arsenic and silver nitrate.

All these disturbances are likely to be transient and quickly disappear after the drug is discontinued. When caused by the juice of a plant, like poison ivy, there may be itching and pain for several days.

It is well to give heed to all skin disturbances, and should you develop an eruption during the time you are taking medicine, call the attention of your doctor to the circumstances. He will advise you what to do.

(See also *Eczema; Poisoning, Food.*)

HYPOCHONDRIASIS, OR "IMAGINITIS"

WHAT TO DO

1. Take the sufferer to a doctor who can inspire confidence.
2. Divert his thoughts by any means—common sense talks, occupation, or amusement.
3. Do not be either oversympathetic, or harsh in judgment.

IF it were not for the imagination, the business of the doctor would be materially lessened. Perhaps I am overdrawing it a little, but I believe that just about fifty per cent of the patients who go to doctors have no real disease. They think they have, or, I sometimes think, they hope they have.

These persons, however, are just as much patients, after all, as those who have cancer, ulcer of the stomach, or typhoid fever. They have sickness of the mind.

With the greatest detail they recite their symptoms. Usually some well-known disease is described. It may be Bright's disease, or appendicitis, or some involvement of the heart.

Dr. Osler tells a funny story about a well-known doctor who described his condition in detail to a fellow surgeon. The surgeon was convinced the doctor had appendicitis and proceeded to remove a perfectly normal organ.

The part of the body in which we find the liver and stomach is called the hypochondrium. Since imaginary diseases are usually centered on these organs, all such conditions are grouped under the name hypochondriasis. The victim of "imaginitis" is known as a hypochondriac.

It isn't a good thing to think too much about yourself. You get an idea you have stomach disease or some other serious ailment. You brood over your trouble. You consult

doctors about it. You compare notes with other imaginative souls. Pretty soon you have become neurotic.

It is very easy for dyspeptics to get hypochondriacal. They are miserable, anyhow. They have heartburn, headache, backache, bad taste in the mouth, belching of gas, bloating, tenderness to the touch, and a string of other symptoms. These are easily woven into a story capable of deceiving an experienced doctor.

Women are accused of having more active imaginations than men, but, strange to say, more men have hypochondriasis than women. Young people have so many distractions that they forget themselves, so this condition is rarely met before middle life.

While the symptoms are overstated, given undue importance, and made the basis for false conclusions, yet it must be conceded that there is usually a physical basis for them. The patient is overworked or he is worrying. He has eye strain. He is unhappy in his work or his surroundings. He is underfed or overfed. He is ignorant of, or is neglecting, the simple rules of hygiene. Bad air, excessive use of tobacco or coffee, lack of exercise, neglect of recreation, are charged against him. Excesses of every sort and lack of adjustment generally are responsible for complaining nerves. Then, when the imagination focuses all his troubles on one organ, the self-deluded but genuinely unhappy mortal becomes a hypochondriac.

It is not easy to overcome this conviction. I used to have a patient who came to my office at least once a month in order that I might read to him the symptoms of hypochondriasis. He always went away convinced and "cured," but the cure wouldn't stick longer than thirty days.

My advice is to select a doctor, confide in him, and implicitly trust his conclusions regarding your health. Train yourself to accept as gospel what he tells you.

INFLUENZA

WHAT TO DO IN AN ATTACK

1. At the first suggestion of the attack, treat as you would treat a cold or chill. (See chapter on Chills and Colds, Part I.)
2. Send for the doctor at once. If neglected, influenza may lead to pneumonia.
3. Take precautions against the sufferer communicating the disease to others.

IT won't be long before there will be some form of vaccination, or other means of protection, against influenza and the common cold. At this moment, while we seem to be at the very threshold of such a discovery, we cannot say we have crossed it.

We think of small-pox, diphtheria, typhoid fever and other diseases which terrorize the community as among the great dangers to mankind. As a matter of fact, these dreaded diseases are of little consequence when compared with the common cold and the ailments which are traced to it.

When influenza, the big brother, is included with the cold, we have a combination more powerful in the production of illness than any other in human experience. Then, to make this family more deadly, we have pneumonia hanging around, ready to accept even the hint of an invitation to join either of the brothers.

Influenza is different from a common cold. It is due, we assume, to a specific germ, capable of setting up in the body a definite chain of symptoms. While influenza begins like the ordinary cold, it ends up with a much more severe disturbance, upon which may be grafted pneumonia.

The trouble with most persons is that they do not consider it worth while to stay home and nurse an ailment which may

prove to be a simple cold. The fact is, however, that we are foolish to neglect the early symptoms of what may be a serious, and possibly even a fatal, disease.

Bear in mind all the time that the nasal and mouth secretions of a person having a cold or influenza are filled with germs. These are capable of producing the same disease in another who comes in contact with these infected secretions.

The secret of avoiding influenza may be told in two sentences:

Maintain your powers of resistance by living a normal and hygienic life.

Avoid contact with the secretions of a diseased person.

Sneezing, coughing, loud talking, spitting, careless nose-blowing—by these means the germs of disease are widely scattered. If you come within range of the germ-infested moisture, you are in danger of infection. Eating utensils, toilet articles, and soiled hands are capable of carrying the infection.

You should never sit down to eat a meal without washing your hands with soap and water. You should never take food from dishes which have not been washed in hot water and soap.

Before kissing your family, wash your face with soap and water. When you return home from work, wash out the outer part of your nostrils and clean your teeth and finger-nails. Then you are ready to associate with your dear ones.

Consult your doctor if you do not feel well. But try to feel well all the time by getting lots of fresh air and sunlight. Sleep in a well-ventilated room. Eat simple, wholesome food. Exercise. Give yourself recreation and entertainment.

(See also *Catarrh, Nasal; Chills and Colds; Cold, Why We Should Not Neglect a Common; Coryza; Pleurisy; Pneumonia.*)

INSOMNIA

WHAT TO DO

1. If constipated, correct the condition. (See chapter on Constipation, Part II.)
2. Give a glass of hot milk and a cracker just before retiring.
3. Open the window, put out all lights, let the sufferer have no more covering than is essential, and compose himself to sleep, not to think.
4. If restless, he should turn on the light and read for a while.
5. If the insomnia persists, look for the cause in eye strain, over fatigue, undue anxiety, faulty habits, or condition of health.
6. Consult the doctor as to the cause and its remedy.

IT is common to hear somebody speak of a restless night due to some indiscretion in diet. One of the chief offenders against nocturnal rest is coffee, taken late.

The moderate use of coffee, like the moderate use of a lot of other things, is perfectly safe. It is the abuse of coffee and its use at the wrong time about which we must complain. If I drink strong coffee late at night, I cannot sleep, because my sense of hearing has been stimulated. Actually, my hearing becomes so acute it seems to me that I could hear a leaf strike the next house. Every sound is exaggerated, and I am kept awake by the very din.

Tickling in the throat, coughing, pain in the chest, and difficult breathing are natural causes for sleeplessness. Any condition where these symptoms are present must be expected to break the rest.

Sleeplessness is complained of sometimes where it does not really exist in any abnormal sense. One cannot expect to sleep till seven in the morning if he goes to bed at nine o'clock.

Children can sleep indefinitely, but the average adult can get along very well with seven or eight hours of sleep. Indeed, many adults are perfectly well and happy if they have six hours. Therefore, why should you expect to sleep soundly till seven if you go to bed ten hours before that? We must be reasonable, even when we find fault with unprotesting Nature.

Excessive smoking, reading too late, working too many hours, worry and mental strain of every sort are factors of importance in dealing with insomnia. They may be at the foundation of the failure to sleep.

One of the most frequent and, for some reason, one of the most commonly overlooked causes for sleeplessness, is constipation. The first questions I ask of a patient who speaks of insomnia relate to the intestinal condition and to the eating habits. Intestinal absorption may be productive of nervous reactions which disturb sleep.

One reason why many people sleep poorly is because they go to bed to think, to read, to smoke, to sew, to do everything except to sleep. If you form the habit of going to bed for no other purpose than to get a night's sleep, it will help a lot. Open the window, put out all the lights, have no more covering than is essential to the temperature, and compose yourself to sleep.

If you are restless and fussy, finding that you simply cannot sleep, do not tear your bed to pieces, but turn on the light and read for a while.

Sometimes a glass of hot milk, a cracker or two—any light lunch—will aid your sleep. Heavy suppers just before bedtime are bad things, and the dyspepsia they cause and aggravate will increase the insomnia.

There can be no better prescription for the sleepless than daily indulgence in physical labor. If you are tired with the honest-to-goodness, well earned, and legitimate tiredness which comes from manual labor, then you can sleep. You won't ask for over-stuffed mattresses or a downy couch. You will find that any place upon which to stretch your weary frame is a good spot to sleep.

It is a pity that many, many persons neglect the privilege of physical work. They hold aloof from it, either from pride or from sheer laziness. They are fatigued because of late hours and continual loss of sleep. They are poisoned from bad air or from overeating, or both. But they are never tired, really, genuinely tired, from the play of muscles, from long miles walked, or from actual manual labor.

If you cannot sleep, make a survey of your life and see if it is not because of the lack of muscular effort. To take strain off the kidneys, the skin must work unceasingly. To keep the blood pure, the tissues clean, and the brain clear, there must be physical exercise. Without it, the waste products of the body are not carried away as they should be.

If you are not sleeping well, if your bed seems hard and lumpy and uncomfortable, if you get up more tired than when you went to bed, try a stiff dose of hard work.

Bear in mind that hard work makes a soft bed!

If there is uncorrected eye strain, overfatigue from any cause, or undue anxiety, there can be no hope of happy nights without correction.

Seek the cause of your particular case, and if you do not discover it, talk with your doctor.

ITCHING, OR PRURITUS

WHAT TO DO

1. Mop the itching parts with a solution of three tablespoonfuls of hyposulphite of soda to a quart of water. If this drug is not at hand, use baking soda in the same proportion.
2. Apply oxide of zinc ointment, or other protective salve.
3. Correct constipation if present. (See chapter on Constipation, Part II.)
4. Build up the general health.
5. If the symptoms continue, consult your doctor.
6. Have the urine examined.

THERE is a disagreeable disease known as the itch. This is due to the invasion of the skin by a minute insect. Itching of the skin is the most aggravating symptom.

But there are other conditions, entirely different in origin, in which itching, smarting, and burning are characteristic.

The name given this symptom is pruritus. It cannot be said to be a disease. It is merely the sign of some disorder of the system.

Many cases of pruritus have intense itching without visible change in the surface of the skin. Sometimes there is a slight redness.

It is remarkable how many disorders of the body can be traced to the nervous system. If the nerve force is exhausted by overwork, worry, loss of sleep, or any emotional experience, the first evidence of Nature's protest may be violent itching of the skin.

The skin may be poisoned and irritated by the absorption of bodily poisons or secretions. For instance, in jaundice there is absorption of bile which should escape in a normal

way. Its first effect, after coloring the skin a brilliant yellow, is to cause the skin to itch and burn. The symptom drives the victim nearly crazy. Diabetes also causes violent pruritus.

In pregnancy and during the change of life, pruritus is a common experience.

Stomach and intestinal disturbances, no matter what the cause, may produce itching of the skin. Constipation is the most common factor at the foundation of this unhappy trouble. Worms are a frequent cause of this trouble in children. Mid-winter pruritus is met frequently. Heavy woolen underwear, plus buckwheat cakes and pork gravy, will give most anybody severe itching of the skin.

In the treatment of pruritus, as in the treatment of every other condition, you must hunt for the cause and remove it.

This may be some article of food—pickles, strawberries, shell-fish, fried foods, meat, coffee, and so forth. Careful search will find it.

Excessive scrubbing of the skin and the use of certain brands of strong soap may produce pruritus.

Give up wool and use some other material for the underwear.

Locally, great relief may be had by applying alkaline solutions to the skin. Baking soda—a tablespoonful to an ounce of water—will help.

One of the most useful applications is hyposulphite of soda—three tablespoonfuls to a quart of water. This will give almost immediate relief for itching of the skin. Zinc oxide or tar ointments are useful. Any protective salve will help most cases.

In a persistent and annoying case the family doctor should be consulted.

Correct constipation. Have the urine examined to make sure that the kidneys are all right. Build up the general health.

(See also *Constipation.*)

JAUNDICE

WHAT TO DO IN AN ATTACK

1. Regulate the diet, omitting fats, pastries, highly seasoned food, and sweets.
2. Give buttermilk, skimmed milk, Vichy and Saratoga waters, alkaline waters, and lemonade.
3. Keep the bowels open by the use of saline waters and rectal injections of cool water to which a little bicarbonate of soda is added.
4. For the itching of the skin, apply freely a solution of hyposulphite of soda, in the proportion of three tablespoonfuls to a quart of water.

THERE are many causes productive of the symptoms of indigestion. Not all of these appertain to the stomach itself. The liver and gall-bladder, if interfered with in their normal functions, may excite trouble with the digestion.

The bile, which comes from these organs, is essential to the digestion of fat. If this fluid does not flow as it should, there will be delayed absorption of the fatty foods. Intestinal action is stimulated by the bile. If the supply is greatly reduced, the bowel fails in function, and putrefaction of the intestinal contents follows. The absence of bile causes the stools to be white, pasty, and very offensive.

When the flow of bile is reduced, there quickly develop symptoms of indigestion. Gas formation and bloating are early symptoms. Constipation is common.

Under certain conditions there are obstruction and interference with the escape of the bile. Then jaundice results.

Jaundice is not a disease. It is merely a symptom of various conditions which prevent the free escape of the bile from the liver and gall-bladder.

If this obstruction, whatever may be the cause, continues

for a few days, there will be discoloration of the skin and of the whites of the eyes. The normal complexion and color are changed, becoming yellow or greenish-yellow.

Pretty soon the skin becomes discolored. Then it itches terribly. There may be black spots from hemorrhage under the skin. The urine, too, is colored yellow.

Jaundice may be due to a catarrhal inflammation of the bile duct. Exposure to cold may cause this. Certain diseases, too, like malaria, Bright's disease, pneumonia, and typhoid fever may produce catarrhal jaundice.

There is also a form of jaundice known as epidemic jaundice. It is a condition like the ordinary catarrhal jaundice, but due to an infection carried by rats.

In the treatment of jaundice first consideration is given the diet. Fats are not well digested without the bile, so fat should be omitted from the dietary. Pastries, all fats, highly seasoned food, and sweets should be avoided.

Buttermilk, skimmed milk, Vichy and Saratoga waters, and lemonade are useful. Lots of water, internally and externally, is well indicated.

The bowels should be kept open by the use of saline waters or mineral oil. All alkaline waters are valuable.

Rectal injections of cool water to which bicarbonate of soda is added will prove helpful.

There are various local applications which will help to relieve the itching of the skin. Hyposulphite of soda, three tablespoonfuls to a quart of water, will add to the comfort. This is applied to the itching parts. It may be used freely.

There is a form of jaundice met with in new-born babies. It is observed on the second or third day after birth and lasts two or three weeks. It has been suggested that chloroform used for the mother may cause this trouble.

Jaundice is not one of the serious experiences of life. Unless the obstruction is due to a growth, the trouble will quickly disappear.

LEUCORRHEA, OR WHITES

WHAT TO DO

1. Consult the doctor to find the cause and correct the cause.
2. Build up the general health by a good, nourishing diet, daily exercise in the open air, plenty of sleep, and a well-regulated life.
3. To relieve the symptom, give a daily sitz bath with a cherry-red solution of permanganate of potash, or one tablespoonful of salt and one of bicarbonate of soda to one quart of tepid water that has been sterilized by boiling. (See chapter on Menstruation, Difficult, Part I.)

A GREAT number of women and girls write to me asking what they can do to cure leucorrhea.

This is a discharge, usually whitish or yellowish in color, which appears at the vaginal outlet. It indicates a condition commonly known as the "whites."

There is a popular belief that the discharge causes great weakness and various constitutional disturbances. But, as a matter of fact, this is putting the cart before the horse. When leucorrhea exists, it is usually associated with such disorders and general debility. However, it is the disturbance which exists first and causes the leucorrhea, and not the leucorrhea that causes the general disturbance of health.

When once we understand that leucorrhea is not a disease, but a symptom of some unhealthy condition, it becomes plain that the only cure for this symptom is to overcome the cause of it.

It is most commonly due to a slight catarrhal inflammation of the small glands in the neck of the womb or in other adjacent parts. While, of itself, this is not at all serious and

has no particular influence on the general health, it should never be neglected, because it may in time lead to grave local disease.

Among the general disorders which frequently cause this trouble are debility, anemia, malaria, tuberculosis, and acute diseases, such as diphtheria, scarlet fever, typhoid fever, and so forth. Emotional excitement sometimes causes this type of leucorrhea. One of the most prolific causes of all the disturbances in the pelvic organs of women—leucorrhea included—is chronic constipation.

The first thing to do, if you are troubled by leucorrhea, is to have a talk with your family doctor. He will help you to find the cause of the disagreeable symptom, and when this is known, the treatment will suggest itself.

To relieve the discharge, the best treatment is the use of a daily sitz bath. (See chapter on Menstruation, Painful, Part I.) A douche is sometimes necessary, but this should never be taken without advice of a physician.

One tablespoonful of salt and one of bicarbonate of soda to one quart of tepid water, which has been sterilized by boiling, make a satisfactory bath. Or a cherry-red solution of permanganate of potash may be used. In either case, the bath is merely cleansing and never curative.

In this condition, it is of first importance to build up the general health with a good, nourishing diet, to exercise daily in the open air, to get plenty of rest, to correct constipation, if it is present, and to lead a simple, well-regulated life. Your doctor will prescribe any medication that may be needed.

There are other forms of leucorrhea which are more serious than the simple disturbance of which so many women complain. These are directly dependent upon some local disease and are benefited only by the treatment of the disease. They are, however, usually accompanied by other symptoms besides the discharge. At the appearance of leucorrhea from any cause the doctor should be consulted at once. The ordinary form, however, need cause no alarm.

(See also *Anemia; Constipation; Menstruation, Difficult; Right Living.*)

MALARIA

WHAT TO DO

To avoid an attack:

1. **Destroy mosquitoes and their breeding places.**

To treat the attack:

1. **Consult the doctor, who will prescribe quinine in proper doses and other treatment.**

WE must not regard the mosquito merely as a nuisance. Under certain conditions it becomes a serious menace to health.

Fortunately, not all mosquitoes are to be dreaded as possible carriers of disease. There is one particular variety which is responsible for the carrying of the germs of malaria. This is called the Anopheles.

You can recognize the malaria mosquito by the way it carries its body on alighting. The ordinary harmless pest rests with its body parallel to the surface. The Anopheles rests with the body at right angles to the surface—as if it stuck its hips into the air.

The Anopheles is a night traveler. It rarely goes out in day. Like other sinners, it prefers the night hours for its revels.

It is probable that you regard the mosquito as a summer pest. You may be surprised to learn that under proper conditions it thrives through the winter, too. It breeds in hidden pools or basins of water in engine rooms and similar places throughout the year. While I was Commissioner of Health in New York City it was our experience that the wet and warm basements of dwellings and apartment houses were breeding places of mosquitoes. Even in the middle of winter, during the coldest weather, these insects would hatch out and fly through the buildings to annoy the human inmates.

Mosquitoes, however, do not become infected unless they have a malarially infected person to begin with.

The mosquito sticks his bill into the skin of a man whose blood contains the malarial agent, plasmodium malariæ. In sucking the human blood, the insect fills its body with the diseased blood, which can inoculate other humans. The insect flies away with its disease-producing cargo. Alighting on an innocent and ignorant victim, it injects a dose of disease-generating material. Very soon there is another victim of the disease and another center for the contamination of the community.

There can be no inoculation of the mosquitoes until there is a case of malaria in the neighborhood. When there is such a case and the right—or shall I say wrong?—kind of mosquitoes are present, the whole town is in danger.

There are several forms of malaria. The most frequently met type is called the tertian variety. In this variety there is an attack every other day. The intervening day is a comfortable one.

Unless you have had a good, strong attack of malaria, you don't know how miserable one can be. There is a chill, when your teeth chatter and you shake so that your bed fairly vibrates. Then comes the fever, which runs so high you become delirious. Your brain feels as if it would burst. Your back aches. You wish you might die.

After four, or six, or eight hours, you begin to sweat. As the perspiration increases, the headache, fever, and discomfort decrease. Pretty soon there comes a good sleep and the next day you feel "fine as a fiddle."

It is generally recognized that quinine, one of the few specifics in medicine, is the standard remedy for malaria.

Needless to say, malaria can be wiped out by destroying the mosquitoes and their breeding places. Ditching, drainage, filling in low land, and proper treatment of stagnant water will exterminate the carrier. When once the means of transmission has been destroyed, the presence of malaria in the community disappears at once. Kill the mosquito and malaria will take care of itself.

MASTOID DISEASE

WHAT TO DO IN AN ATTACK

To avoid an attack:

1. **Avoid colds, or promptly cure them.**
2. **Consult the doctor at the first indication of earache.**

To treat the attack:

1. **Send for the doctor at once. Surgical measures are frequently necessary.**

AFTER influenza or after almost any of the acute infections or contagious diseases, it is not uncommon to have mastoiditis. This is a painful and serious complication.

Back of the ear is a prominence called the mastoid bone. Inside this bone are a lot of spaces like the cells in honeycomb. The largest space is the mastoid antrum, which opens into the middle ear.

The mastoid cells are of small consequence in health, but when diseased, you will find that these little cells are so located and so neighbored that their involvement is serious, even fatal.

I have told you that the mastoid communicates with the middle ear. In its turn, the middle ear communicates with the nose through the Eustachian tube. This relationship leaves the ear susceptible to attack. You "catch cold." For a few days the nose "runs." The ears feel stopped up. There are occasional twinges of pain in one ear. Then the ear begins to ache, and, with intermittent periods of slight relief, trouble steadily increases.

A "gathering" forms in the middle ear, and in a day or two the drum may break, permitting the discharge of a few drops, or of a considerable amount of fluid. Usually the pain ends now, and after a few days the discharge stops, the perforation heals, and recovery proceeds satisfactorily.

In other cases, however, the discharge stops and the pain returns. Now, however, it is not in the ear only, but it is also felt back of the ear. The pain grows worse and the skin over the prominence back of the ear gets red. Gradually the tissues here begin to swell. The swelling increases till the ear is pushed forward. It may be difficult to turn the head.

There are fever, restlessness, anxiety, and even delirium. The patient gives every evidence of severe illness.

Between the mastoid antrum and the cavity of the skull is a layer of bone, no thicker than a half dozen sheets of paper. As you know, the brain occupies the interior of the skull. It is really easier for pus in the mastoid cells of a grown person to burrow through the bone into the brain, than to escape outwardly into the soft tissues behind the ear. Therefore, to protect the brain and for the lesser reasons, when the mastoid cells fill with pus, an operation should be performed to permit their drainage.

The story of how the mastoid becomes involved should teach you several important lessons. The first of these is that you should lead such a hygienic life that colds are not in your catalogue.

The next is that a common cold should not be regarded lightly. Give yourself such considerate treatment that it will disappear speedily.

Lastly, do not neglect an earache. You need the early advice of your family doctor if the ear becomes involved.

(See also *Adenoids; Cold, Why We Should Not Neglect a Common; Catarrh, Nasal; Coryza; Earache; Tonsils, Enlarged.*)

MEASLES

WHAT TO DO IN AN ATTACK

1. At the first indication of sore throat, fever, or croupy cough, put the sufferer to bed and send for the doctor.
2. Keep the patient separated from other members of the family.
3. Keep him in bed in a darkened, well-ventilated room where the temperature is about 70 degrees.
4. While the fever lasts, limit the diet to milk, bread, and light soups.
5. Watch eyes, ears, nose, and throat carefully to avoid complications.
6. Let the sufferer remain in bed for a week after the fever has entirely ceased.

MEASLES is the most highly contagious disease known to man. It is communicable from the time of the first symptoms until the catarrhal symptoms disappear.

It is a mistake for a mother purposely to expose her child to measles. Indeed, until the age of five, every care should be taken to avoid the ailment. If measles can be dodged until the child is well developed, he will fight off the effects with greater ease.

The disease is seldom serious in healthy children. It should, however, be closely watched to avoid any after-effects. Like whooping-cough, it is frequently followed by pneumonia, bronchitis, or tuberculosis.

In adults an attack of measles is frequently a severe experience.

Keep a close eye on a child for two weeks after exposure to the disease. The period of incubation is from seven to fourteen days. If the child develops a cold with a slight fever, a croupy cough, sore throat, or swollen tonsils, put him to bed at once and send for the doctor.

Do not wait for the appearance of the rash to separate him from other children. This does not come until about the end of the fourth day of illness. Then the fever begins to go down.

The eruption can usually be seen first, if you will look for it, on the roof of the mouth. There will be two or three distinct little inflamed pimples, or "papules." Some hours after, it will spread to the neck, the face, the forehead, and the body. A well-marked case can be recognized at a glance. The face is flushed, the eyes red, and the cheeks covered with groups, or crops, of pimples. By the fifth or sixth day the eruption begins to fade and the "desquamation," or peeling process, begins. By the seventh or eighth day, the eruption is nearly gone, leaving a bluish look over the body.

The disease always runs its course. Great care should be taken, however, to prevent complications.

The patient must be kept in bed in a darkened, well-ventilated room. The temperature should be kept uniform, at about 70 degrees. While the fever lasts, the diet should be limited to milk, bread, and light soups. As the peeling period is about ended, a more generous diet may be allowed.

The eyes, ears, nose, and throat are affected while the fever lasts, so that they must be closely watched.

In an average case the patient should stay in bed for a week after the fever has entirely ceased.

Your doctor will prescribe suitable medication to meet the symptoms.

MUMPS

WHAT TO DO IN AN ATTACK

1. Send for the doctor.
2. Keep the sufferer quiet.
3. Apply hot compresses to the swelling for ten minutes each hour.
4. If the temperature is high, sponge the body with cold water or alcohol several times a day.
5. Isolate the sufferer to prevent communicating the disease, and destroy all discharges from the nose and throat.

EVERYBODY laughs if you say a friend has the mumps. I suppose it is because the mumps patient looks so funny. His face is all out of shape and his natural expression is lost in the swelling.

But, after all, mumps is not an ailment to be laughed at or despised. It is a real disease.

The organs which supply the moisture for the mouth are called the salivary glands. In mumps these glands become inflamed and swollen. This makes the neck and the tissues under the edge of the lower jaw stick out, causing the face to lose its symmetry.

The nature of the germ or virus carrying the infection is not understood as yet, but the disease is classified with the acute infectious or contagious diseases. It comes on two or three weeks after exposure.

When the disease gains a foothold in a school or institution, it may attack almost every person in attendance.

It is rather uncommon, but not unheard of by any means, to have mumps in adult life. Children under fifteen and past ten, boys particularly, are likely to be the victims. Even nursing children may have the mumps.

The first sign of mumps is fever. This rarely runs very high, unless the attack is particularly acute. It usually varies from 101 or 102 to 104 degrees. The sufferer may become delirious.

There is marked pain and great swelling on one side of the face. Pretty soon the other side may become involved.

Sometimes the swelling is so great that the patient can hardly open the mouth. This symptom persists for three, four, or five days.

Earache and perhaps dullness of hearing are other symptoms occasionally met. In some cases there is almost no pain of any sort.

The symptoms last for a week or ten days. Then the fever and swelling disappear and the disease is gone.

There may be certain uncomfortable complications. Other glands may be involved. In rare instances the brain may become affected. Kidney trouble, paralysis of the face and other parts, and inflammation of the joints are other exceptional complications.

In very rare cases the gland suppurates and must be drained. Fortunately, however, this is most uncommon. Most of the cases are simple, speedily relieved, and leave no after-effect.

You will be surprised to know that it is sometimes difficult to tell the difference between mumps and diphtheria. Slight swelling, pain, difficult swallowing, and fever may give a suspicion of diphtheria. Of course, in diphtheria there may be a membrane in the throat, which is lacking in mumps.

This leads me to say that whenever a child is taken sick, having a chill or convulsions, vomiting, running nose, and fever, the parent should inspect the throat. In very young children diphtheria is a serious and too frequently fatal disease. Early recognition is of tremendous importance, because early use of antitoxin may save the child's life, while if the recognition is postponed, the disease may be fatal in spite of all treatment.

There seems little need of mistaking diphtheria for mumps, but the mistake does occur and we must take no

chances. It may happen, of course, that mumps and diphtheria appear together. The family doctor will settle all these problems.

The victim of mumps should be kept apart from the rest of the family. The secretions of the nose and throat contain the organisms or the virus responsible for the disease. Other children must be guarded against exposure, or the whole family or a whole schoolroom may be infected.

The family doctor will direct the treatment, although there is little to do except to keep the patient quiet. Sponging the body may lower the temperature.

Hot compresses may be applied locally. In other cases cold, even an ice-pack, will prove more grateful.

(See also *Diphtheria; Sore Throat; Tonsils, Enlarged.*)

WHAT TO DO IN AN ATTACK

1. Consult the doctor and have a thorough physical examination of the sufferer, including teeth and eyes, to find whether or not there is a physical basis for the trouble.
2. Encourage him to discuss all fears and mental symptoms with the doctor.
3. Build up the general health by correcting any local causes and by a regular, well-ordered life.

SOME persons break down and become neurasthenics, not because of the conditions of modern life, but because they possessed all the "makings" and were ready to become neurasthenic on any provocation. Had they been born in another age, or in other surroundings, their lack of adaptability might not have been discovered.

It is a great thing to be able to adjust yourself to your environment. Failure to do so means mental friction, and friction long continued will do harm.

It is not alone the conditions of city life, however, that result in a nervous breakdown. The old-time rural monotony is just as bad. No doubt, many a case of "nervous prostration" has come from the dull, dreary, dark, and miserable circumstances of having nothing to do.

The symptoms of neurasthenia are almost as many as there are the victims of the condition. Loss of power to perform the ordinary duties of life is perhaps common to all the cases. The bookkeeper can't add, the seamstress can't thread her needle, the chauffeur is afraid to drive his car, the business man dreads his office, the teacher can't bear the noise and confusion of the schoolroom, the reporter can't find words to express his thoughts.

Did you ever throw down your papers, books, or work and declare you would never do another stitch? That is an early symptom.

Inability to sleep, fitful sleep, lying awake for hours, then falling asleep when it is time to get up, and finally leaving the bed more tired than on going to bed—these are signs of neurasthenia.

Pains here and there, headache, eye-ache, and difficult breathing are other symptoms. Profuse sweats, palpitation of the heart, and throbbing or pulsation somewhere in the body are other symptoms.

With all the rest, the sufferer has an abiding belief that he is doomed, that he can never recover.

In the treatment of these cases the first essential is to arouse in the patient the desire to recover and the belief that he will get well. To this end, he needs a doctor in whom he has confidence, or one who can awaken the hope of recovery.

Change of scene, change of companions, diversion, new thoughts, all will help.

Almost always there is a physical basis for the trouble. This must be found. Very frequently constipation is present. Coarse food and the daily use of mineral oil, a tablespoonful on retiring, will help this symptom.

Tub or shower-baths every day, with brisk rubbing of the skin afterward, will promote the well-being of the patient.

The oculist and the dentist should pass on the case. Eye strain or dental defects may be the cause of some drainage of nerve energy.

The patient should discuss all his fears and confess all his sins to his physician. Frankness of this sort will go far toward helping him to effect a cure.

NEURITIS

WHAT TO DO

1. Put the sufferer to bed and keep him quiet.
2. Apply capsicum vaseline over the painful nerve and cover the part with a hot, wet towel.
3. If this does not relieve the pain, try wrapping the affected part in cotton and snugly bandaging.
4. Send for the doctor, who will look for the cause of the symptom and advise measures for correcting this.

WE have little sympathy for a sufferer unless we can visualize his ailments. If the complaining individual looks well and eats heartily, we look askance upon his insistent murmurings. We consider him a croaker and a grunter.

As a matter of fact, however, there are great sufferers in this world who show no external evidences of their disabilities. One of the diseases capable of causing intense pain without visible sign of trouble is popularly called neuritis. The pain may incapacitate the victim. It is so agonizing that concentration on any labor, physical or mental, is impossible.

The name neuritis means inflammation of a nerve. Nerves consist of bundles of fibers, surrounded by a delicate covering called the sheath. In neuritis there may be inflammation of the covering, or the disease may show itself by a disturbance within the sheath and between the nerve fibers. In severe and protracted cases the fibers themselves become inflamed.

In the beginning, the disturbance may be confined to a limited portion of a nerve. After a while, it may extend along the nerve or attack other nerves. When it involves a lot of nerves, it becomes more formidable and is known as multiple neuritis or polyneuritis.

If the pain is long continued and very severe, the rest is disturbed. Then, for lack of sleep, there may be a marked

effect upon the vitality, loss of appetite, and gradual undermining of the health.

Usually, and particularly in mild cases, there is little constitutional derangement. But it is easy to discover what is wrong, because the affected nerve is very sensitive to pressure. Sometimes the overlying skin is reddened and the parts may be considerably swollen, causing the surface to be hard and glazed in appearance.

You know there are two kinds of nerves—motor nerves and nerves of sensation. The former control the movements of the body. They are the wires, so to speak, which carry the messages from the brain to the muscles.

If there is a neuritis involving important nerves which communicate with your hand muscles, there may be such interference with your functions as to make these muscles helpless. Your hand may be as useless as if it were dead.

In certain forms of neuritis involving this region there may be "wrist drop." That is, the muscles are powerless and the hand droops at the wrist, falling down much as a dog's paw hangs down when you make him "Sit up, Fido."

More commonly, there is power to move the muscles, but motion is so painful that the victim dreads to make the effort.

If the neuritis involves a nerve of sensation, there may be itching and tingling, or there may be numbness, with, perhaps, loss of all feeling.

The attack may last a few days or for several months. It all depends on the cause.

There are two general forms of neuritis, speaking of the disease from its causation factors. The first we may call primary neuritis.

Exposure to cold is a common cause. Since the face is exposed to weather conditions, you will not be surprised to learn that neuritis of the facial nerve is a common expression of the disease when it comes from this cause.

We always associate pain in the nerves or muscles, pain which comes from exposure to cold, with rheumatism. On this account, this form of neuritis is sometimes called rheumatic neuritis.

Direct injury of the nerve is another cause for primary neuritis. A blow on a nerve, or the tearing of the nerve from a wound—anything which places pressure on the delicate tissue or directly damages the nerve—may produce a neuritis.

Pressure of a tumor or injury of the nerve from death of adjacent body tissues may cause inflammation of a nerve.

More common than primary neuritis, however, is a form secondary to some other ailment. Any disease capable of producing toxins or poisons in the body may set up inflammation in one or more of the nerves.

The more sensitive and delicate the organ or the tissue, the more liable it is to the effect of a toxin. It is no wonder, then, that the finely made and sensitive nerves are easily disturbed by the absorption of bodily toxins.

Most of the infectious or contagious diseases are capable of generating poisons that may cause inflammation of a nerve. After diphtheria, smallpox, scarlet fever, or typhoid there may be violent neuritis. Malaria may cause trouble of this sort. Diabetes is another offender.

Abuse of alcohol is one of the most frequent causes of neuritis. This is particularly true of women. Their more delicate nerves do not resist the effects of alcohol as well as do those of men.

It is not difficult, usually, to recognize alcoholism as the real cause of the pain and inflammatory changes. The mental and general effects of alcohol are readily observed.

Chronic arsenic poisoning, food poisoning, and poisoning from other toxic agents may produce neuritis.

I never see a case of neuritis without asking about teeth, tonsils, nasal cavities, and intestinal tract. There is no doubt that absorption of bodily poisons may cause serious involvement of the nerves. Intestinal fermentation, chronic constipation, pussy gums, as well as the more deep-seated infections, have most to do with this trouble.

In the treatment, it is necessary to find and remove the fundamental cause. Until this is done, there is little hope of speedy cure.

Absolute quiet is essential to the relief of an acute case. Hot applications and electricity are valuable.

Great comfort may follow wrapping the affected part in cotton and then snugly bandaging. Fixation and support certainly relieve the pain.

Applying capsicum vaseline over the painful nerve and then covering the part with a hot, wet towel usually stops the aching for a little while.

The doctor will provide the necessary remedies.

(See also *Sciatica.*)

PILES, OR HEMORRHOIDS

WHAT TO DO

1. Replace the protruding swelling. To do this, lubricate the parts freely with vaseline, get into a tub of hot water, and gently push the swelling back through the opening.
2. If this method is not successful, apply a cold-water bag or hot-water compresses to the swelling.
3. To relieve the itching, wash the parts frequently with soap and water and apply zinc oxide ointment, extract of witch-hazel, or a teaspoonful of alum to a cupful of water. Ointment of galls may be applied twice a day.
4. To relieve painful bowel movements, insert a glycerine suppository in the rectum, just before evacuation.
5. Correct constipation, if present. (See chapter on Constipation, Part II.)

DELICACY prevents our speaking of certain troubles and, as a result, many a simple and easily remedied condition is permitted to go on for a lifetime. The itching, gnawing, bearing-down, sticking, and splinter-like pains in the region of the rectum are symptoms which are likely to be the result of trifling causes. Most of these symptoms may be speedily removed in the simplest manner.

The rectum may be attacked by one of several diseases or conditions. Its anatomy and functions are such that it lends itself to certain ailments.

This part of the lower bowel is from five to eight inches long. It is more or less constricted at each end. The middle part is elastic and dilatable. This portion is not unlike a pocket in which large quantities of waste material may accumulate.

The lining membrance of the rectum is thrown into a series of folds. It is as if the lining were too long; to make it fit at all it would naturally be puckered and wrinkled. Behind each such fold there is a space, or cavity, at the bottom of which may be a sore spot.

At the very lowest part, just before the cavity of the rectum opens externally, is what has been called the "pile-bearing inch." This is made up of a very dense network of blood-vessels, particularly of veins. Not only are the veins numerous and large, but there are many nerves in these tissues. The presence of the sensitive nerves accounts for the tenderness of this region and for the extreme painfulness of any disturbance here. Powerful muscles grip and control the exit, and by their very action pain is produced by the pressure or pull affecting any ulcerated or raw surface.

Above this last inch is another ring of blood-vessels. This group of veins communicates with the veins which pass through the liver. On this account, any disease attacking the liver and interfering with the flow of blood may produce congestion and internal piles, or hemorrhoids, as the doctors call them.

Hemorrhoids are like varicose veins. They really are swollen or dilated veins. As the congestion of the veins increases, the local swelling is more and more pronounced. Persons who are on their feet much, or who have poor circulation because of lack of exercise, are apt to be affected.

The condition is a disagreeable one and may become very painful. The rawness and soreness of the tissues increase. The trouble may be so bad as to cause real sickness.

It is rare for any person past forty to be entirely free from some form of hemorrhoids.

Habitual constipation, causing overdistention of the rectum with waste material and straining at stool, is responsible. It is a pity that so many persons neglect this simple ailment. Neglect it they do, however, and piles are among the common results.

The trouble may be observed for the first time immediately after a strained attempt at evacuation of the bowels. A swell-

ing or lump is found outside the opening of the bowel. It is dark red or blue in color and sensitive to the touch.

If this swelling cannot be pushed back through the opening, it may become sore and ulcerated, and may bleed at times. There may be more than one such lump. Indeed, there may be a group of lumps. After some months, the soreness disappears and the swellings become hard and leathery.

This form is usually called external piles. Internal piles develop higher up in the rectum. Their presence is unsuspected until they get big enough to be gripped by the muscles of the rectum, or until they drop down and protrude through the opening. This form is apt to bleed considerably.

To prevent hemorrhoids it is necessary to have regular bowel movements and to keep the contents of the bowels soft. Regular and frequent movements, without straining, are essential to rectal health.

In the treatment of hemorrhoids the first step is to replace the protruding lump. This can usually be done by lubricating the parts freely with vaseline, getting down on the hands and knees, and gently pushing the mass back through the opening. By getting into a tub of hot water, the replacement may be accomplished quite readily in most instances.

If the swelling cannot be returned by these methods, the local application of ice water, or a cold-water bag, will be useful. In other cases towels wrung out of water as hot as can be borne will be better.

Most persons who have any trouble with the rectum complain of terrible itching. This can be relieved, almost always, by keeping the parts perfectly clean. After each movement the region should be washed with soap and water.

If this does not give relief, apply zinc oxide ointment after washing. Extract of witch-hazel, or a teaspoonful of alum to a cupful of water, may be used. Ointment of galls may be applied twice a day.

If the sufferer from piles becomes constipated, movement of the bowels is a real ordeal. Relief may be afforded by the insertion into the rectum of a glycerine suppository. This will soften the waste material.

Mineral oil, a tablespoonful every night, three hours after eating, will hurry the fecal stream, produce smaller and more frequent stools, and assist the cure. For the same purpose, simple food is important.

If, in spite of these simple measures, the trouble persists or grows worse, see your family doctor for further advice.

(See also *Constipation.*)

WHAT TO DO IN AN ATTACK

1. Send for the doctor at once.
2. Put the patient to bed and keep him quiet.
3. To relieve the pain in the side, cover the part with vaseline, and then apply a towel dipped in water as hot as can be borne and cover with a dry towel. Renew the heat every few minutes until the doctor arrives.

A "STITCH" in the side which persists gives suspicion of pleurisy. Illness for a couple of weeks may be followed by the stitching pain in the chest. More commonly a sudden chill comes on before the stitch.

The pain may be near the nipple, under the arm, or lower down in the side. It is likely to be cutting, knife-like in sharpness, and excruciatingly painful.

Every time a deep breath is taken and immediately on beginning to cough, there is renewed agony in the side. The sufferer holds the chest and attempts to relieve the pressure by bending over sideways.

In pleurisy there is a dry, hacking cough, some fever, and it becomes more and more difficult to breathe.

The pain subsides somewhat in a few days, but the difficulty in breathing increases. This new complication is due to the accumulation of fluid within the chest cavity.

After a little, the fluid begins to absorb, the breathing grows less labored, and by the end of three weeks from the beginning of the attack conditions are quite normal again.

The thing we fear when pleurisy occurs under these circumstances is that the fluid, instead of being clear serum, may be pus. When the chest has been opened in such a case, there has been found a great quantity of cream-like pus. This condition is called empyema, pus in the pleural cavity.

Fortunately, not all cases of pleurisy go on to pus formation. Indeed, some of them stop before any fluid forms. This variety is called dry pleurisy.

In the treatment of pleurisy the patient should be put to bed and kept very quiet. Try cold applications to relieve the pain. If these do not serve, use hot compresses. Dip a towel in water as hot as can be borne and cover the side. Place a dry towel over this and, every few moments, change for another hot towel.

To stop the agony of breathing, broad straps of adhesive plaster will be most helpful. Have these evenly applied and brought slightly across the midline of the body.

Any suspicion of pleurisy should drive the sufferer to his family physician. One attack appears to predispose to another.

To guard against future attacks, every attention should be given to building up the body and thus raising the powers of resistance. Proper sleep, good food, daily exercise, fresh air day and night, deep breathing, and all the natural means for improving the health are most essential.

(See also *Influenza; Pneumonia.*)

PNEUMONIA

WHAT TO DO IN AN ATTACK

1. Put the patient at once to bed in a room flooded with air and sunshine.
2. Send for the doctor, who will direct the treatment.

ONE of the most dreaded diseases of the human family is pneumonia. There are two forms. Lobar pneumonia is the common and dreaded variety. Bronchopneumonia is less serious and is, in a way, simply an extension downwards of bronchitis.

Lobar pneumonia is divided into several types—four, to be exact. From the layman's standpoint, however, we need not trouble to classify the milder or more serious forms of what in every type is an unwelcome visitor.

Inoculation with pneumonia may be traced to some micro-organism. There are various organisms that may be responsible for the disease. The most generally accepted idea as to the identity of the offender is that the pneumococcus is responsible for this dread malady.

Like the common weeds found everywhere on earth, the pneumococcus is one of the most common of all the disease-producing organisms. Not alone is it responsible for pneumonia, but also it is the cause of abscesses of the ear, of the skin, or of any part of the body. In pinkeye, tonsilitis, colds —in almost every acute disease producing pus or exudate— this germ may be the exciting factor.

It is commonly found in the nose and throat, even of healthy persons. On this account, sneezing and coughing, by "droplet infection," may carry to some susceptible person harmful germs which may raise havoc. It will be seen, therefore, that what seems to be a harmless thing may be an act productive of disease and death in another. Consequently, the nose and mouth should be covered by a handkerchief when-

ever there comes an irresistible impulse to sneeze. It is unfair to others to neglect this precaution, and you are submitting yourself to a real danger if you receive the spray from some thoughtless neighbor.

So many ailments are due to the pneumococcus, it is extremely fortunate for humanity that this organism is easily killed. While it may be carried by dust of the house or street, it is unlikely to be. Direct sunlight will kill the germ in less than two hours. Almost by the time the sputum dries, the germ has become materially less virulent.

Pneumonia is ushered in by a chill. So commonly is this the first symptom that we are almost safe in saying that the illness is not pneumonia if there has been no chill. The chill may come on at night, awaking the patient from sleep, or it may come on at any time. Without warning or previous ill-feeling, the violent chill is experienced.

The next symptom noted is fever. Then cough and pain in the chest appear. Difficulty in breathing becomes more and more prominent.

On the second day the sputum becomes bloody, brick-dust in color.

The crisis comes in from five to ten days after the chill. The fever drops and the painful symptoms disappear.

It is fortunate, probably, that the symptoms of pneumonia are so painful the patient has no other thought than to go to bed. This is the right place. In every acute illness, especially in influenza, in acute and severe cold, in any attack where fever is a symptom, the patient should seek his bed at once. Many a life has been spared by early attention to illness, and millions of lives have been needlessly sacrificed by attempting to "fight off" sickness.

Fresh air and sunlight are fatal to the germ outside the body, and they will go far toward recovery of the pneumonia patient. Let them into the room for the sick and into every room for the well. They are better than medicine.

Let it be remembered that pneumonia is an infectious disease and one that should be kept in proper isolation.

(See also *Influenza; Pleurisy.*)

RHEUMATISM

WHAT TO DO IN AN ATTACK

1. Correct constipation, if present. (See chapter on Constipation, Part II.)
2. Have the teeth, gums, tonsils, and nose examined for possible points of infection and, if any are found, have them removed.
3. Build up the general health by a good, nourishing diet, including milk, cream, and eggs.
4. Have the sufferer exercise regularly and get regular hours of sleep in a well-ventilated room.
5. Hot applications or electricity may help.

EVERYBODY has a theory about rheumatism—what causes it, what makes it worse, or exactly what it is. The general term rheumatism is used to describe several separate and distinct conditions. Perhaps the ailment most commonly known by this name is the one attacking the muscles and called by the doctors muscular rheumatism.

Lameness, soreness, or stiffness of some one or more parts of the body is an all-too-frequent experience of civilized life.

The pain and stiffness may be in the muscles of the back, when it is called lumbago. The neck may be affected, producing a stiff neck. Sometimes the muscles between the ribs or the muscles of the scalp may bear the brunt of the attack.

In the beginning of an attack of muscular rheumatism there may be fever. But sometimes the increase in temperature may be so slight as not to be noticed. Very soon, however, the pain or tenderness will be manifest.

Another form of rheumatism involves the joints. This is called articular rheumatism. In the acute form it may be a severe, exceedingly painful, and sometimes dangerous disease. This is called rheumatic fever.

It is ushered in by chilliness, fever, redness, and swelling

of the knees, ankles, wrists, or other joints. The symptoms may last for several weeks. Unfortunately, the heart is frequently involved, and permanent damage to this organ may be one of the permanent effects.

There is a chronic form of articular rheumatism in which the joints become permanently stiff, deformed, and incapable of use.

The causes of all forms of rheumatism are many. Infections are responsible for many cases. For instance, bad teeth, especially teeth abscessed at the roots, and certain forms of diseased tonsils will produce rheumatism of the joints. Constipation and infection in the intestines may cause muscular rheumatism. Infection in the nose may be the causative factor.

Sufferers from repeated attacks of rheumatism should not fail to consult the dentist. If he determines it necessary, an X-ray of the teeth should be made to see whether there is trouble at the roots. Bad dentistry and neglect of the teeth are important factors in the production of rheumatism.

Sometimes, what is called rheumatism of the scalp may be simply the reflected pain of eye strain. Pain in the back of the neck, too, may be due to this cause. In persons about forty-five years of age, when the consciousness of the need of glasses has not been aroused, there may be such symptoms. These will disappear speedily after a visit to the eye specialist.

Bad posture, leaning over a desk, and too much effort on one wrist or arm in driving an automobile are other causes for muscular pain. Badly fitting shoes with heels too high or too low may cause strain and pain. Such aches are not rheumatic, but they may be mistaken for rheumatism.

When a sore muscle or joint is discovered, ask yourself how it might have been produced by an unusual effort of some sort. If such a cause cannot be determined, watch the symptom and, should it persist, consult your physician. He will determine whether or not it is rheumatism and advise regarding treatment.

(See also *Constipation; Gout; Hardening of the Arteries.*)

RHEUMATISM IN CHILDREN

WHAT TO DO

1. **Call the doctor, so that he can examine the heart frequently.**

MOST of us look upon rheumatism as a disease of old folks. We hear somebody grumble, "Oh! dear, I am getting old and rheumatic." But rheumatism is not confined to the old. It may be met at any period of life. It is much more common in children than most people think.

Rheumatism is not due to such degenerative changes as we expect in old age. On the contrary, it is as much an infection as scarlet fever or measles. Indeed, it may possibly be due to a peculiar form of the same germ which causes scarlet fever.

Most of the common ailments in which pus formation is a symptom are produced by a germ called the staphylococcus. But there are other pus-producing or disease-inducing germs, of which the streptococcus is the most common.

This is an uncomfortable visitor. Whenever this germ invades the body, we have a fight on hand.

Among the complications of scarlet fever, tonsilitis, and other diseases associated with streptococcus infection is rheumatism of the joints.

It is bad enough to have the joints involved in a painful, inflammatory process, but there is another possibility which is worse. It is not at all uncommon for the heart to become affected. Even in a very mild case of rheumatism, the heart may give undue trouble.

Such a complication as we are discussing need not be a result of a severe attack of rheumatism. It may follow a mild, even an almost unsuspected, attack. Likewise, it may not show itself at once. The heart involvement may not be dis-

coverable until a considerable time after the beginning of the original trouble.

In every case of tonsilitis or scarlet fever the heart of a child should be watched. The doctor will examine it every day or two to make sure it shows no sign of trouble. His examinations will not end with the acute ailment, but if there is any sign of rheumatism, will continue for weeks afterward.

I hope I have made clear to you that tonsilitis, scarlet fever, rheumatism, and certain forms of heart disease are cousins. They are very closely related conditions. But there are other troubles belonging to the same family. One of them is St. Vitus's dance, in which twitching of the muscles and loss of control of the movements of the body are uncomfortable symptoms.

Do not neglect any trouble your child may have, if fever, pain, difficult breathing, or unusual symptoms are present. You need not get frightened over them, but by giving proper heed to their importance, you will guard the youngster from something more serious.

RICKETS, OR RHACHITIS

WHAT TO DO

1. Consult the doctor.
2. Give proper diet, containing a sufficient amount of butter fat and vitamine-carrying foods, such as orange juice, tomato juice, the juice of raw beef, and so forth.
3. See that the sufferer has a daily bath, fresh air, and an abundance of sunlight, rubbing with sweet oil, and warm clothing in cold weather.
4. Discourage walking until the bones and muscles are strong.

THIS is a preventable disease.

Bad housing and ill feeding are certain to affect the health of the infant. A baby born in a home of four rooms has four times the chance to live that a baby has who is born in a home of one room.

Overcrowding is not always, but it is usually, one of the pretty uniform series of social disabilities. In any event, the mother of a baby born in crowded quarters and during hard times must be most watchful of the health of her child.

One of the diseases liable to attack an infant under these circumstances is rickets.

Rickets or rhachitis is a disease in which there is general impairment of nutrition. The bones show serious alterations from normal.

It is not noticed until the child is six months old. While there is a form coming as late as the tenth year, it commonly appears during the first two years of life.

Rickets is a disease associated with lack of sunshine and fresh air, but particularly is it found in children improperly fed. Let it be remembered that there can be no proper "substitute" for the natural food of infants.

The food for any particular baby is the right food or it is the wrong food. There is no half-way method and compromise is out of the question. Every baby is entitled to the examination and advice of a doctor who is informed regarding the needs of babyhood. Unless the child is good-natured and increases in weight, medical care is necessary.

The following are the more common symptoms of rickets. Not all of them are apt to be present in any one instance:

The soft spot on the baby's head is exceedingly slow to close.

The child is "chicken-breasted." The chest is thin and narrow. The abdomen is large, and the skin loose and flabby.

The muscles are undeveloped and the joints are big.

The child is restless and irritable. He sleeps poorly. He begins to lose weight and, if he has walked, he objects to doing it any more.

The teeth are slow to appear and are undersized when they do come. They may be misshapen, too.

The child is "pot-bellied," soft, and flabby. His head sweats so that it wets the pillow. He is a frail, weak, undeveloped little sufferer.

When the child gets good milk, containing a proper quantity of butter fat, when he gets orange juice, and when he gets the vitamine-carrying foods, the progressing trouble will be ended.

Fresh air, sunlight, daily bathing, cod liver oil, inunctions with sweet oil, and warm clothing in cold weather will materially assist the cure.

Walking should be discouraged until the bones and muscles are stronger. Otherwise, "knock-knees" or "bow-legs" may result.

Let me repeat! The doctor is the mother's best friend. Let him advise about the child and direct the feeding. Early medical advice will correct conditions which, if neglected, will lead to deformity or early death. Taken in time, there is every prospect of relief.

(See also *Feeding and Care of the Baby.*)

RINGWORM, BARBER'S ITCH, AND FAVUS

WHAT TO DO

1. Scrub the affected parts with tincture of green soap.
2. Remove all crusts and scales.
3. If on a hairy part, shave the affected area.
4. Paint the involved surface with a seven per cent solution of iodine and let it dry.
5. Cover with flexible collodion.

ANY skin disease is an embarrassment, but some skin diseases are positively loathsome. When the hairy parts are involved, there are complications which add to the misery of the sufferer and of the onlooker, too.

The unfortunate thing about some of these diseases is that they are contagious or infectious. They are easily passed on to others.

I desire to tell you about two such troubles. One attacks men almost exclusively, involving the part of the face where the beard grows. The other is found in the scalps of school children.

Both these diseases are forms of ringworm. Of course, ringworm is not confined to the hairy parts. It may be found in the palms of the hands and the soles of the feet. But usually the head, the space under the arm, or some other hair-covered region is the favorite seat of the disease.

Perhaps you will be surprised to learn that the finger-nails or the toe-nails may be reached by this condition. It is a disease of what we call epithelial tissue—skin, nails, and hair.

Ringworm is what is usually called a germ disease. That is, it is caused by a microscopic agent of some sort. There are special types of these agents, and each form has its particular field of choice. The scalp type will not attack the hairless

skin, and it may be said in general that the beard type rarely attacks the scalp.

Germs are just as fussy in their appetites as children are. If a boy can have candy, he won't take bread. So germs have an appetite for certain tissues and won't feed upon any other.

When ringworm attacks the beard it is known popularly as barber's itch.

This disease is superficial at first and may involve just a few hairs. In time, however, the area increases in size and the deeper structures are involved.

First there are redness, thickening, scaliness, and itching of the skin. Pretty soon the hairs fall out or break off, leaving sore places. There may be tumor-like spots, covered with dead hair, which cut holes into the skin. Pus may flow from these openings. This may dry on the hairs, forming an unsightly crust or scab.

Ringworm of the scalp, or favus, is a disease of childhood, especially of school children.

I shall not attempt to discriminate between favus and true ringworm. They are probably not identical in origin, but in their symptoms and progress, as well as in their treatment, they are twins. I am saying this for the benefit of my scientific readers who might find fault with me, if I did not mention my knowledge of the difference.

Yellow crusts gradually increase in extent and depth until they look like honeycomb. The hairs fall out or break off, leaving bald spots, varying in size from a dime to a silver dollar.

The scalp infection may be brought about by germs carried to it by hair brushes and combs. Hats and other articles of dress may convey the infecting agent. It is probable, too, that dogs, cats, horses, cows, birds, and other animals may transmit the disease to human beings.

All forms of ringworm are the result of uncleanliness or carelessness. Modern barber shops and hairdressing establishments are kept scrupulously clean and the implements are sterilized. These precautions are making ringworm a very rare disease.

In the treatment of ringworm, no matter whether it is the form of barber's itch, favus of the scalp, or ringworm of the body, the methods are simple and satisfactory.

Scrub the parts clean, using for this purpose tincture of green soap. Remove all the crusts and scales. Then paint the involved surface with iodine and let it dry.

Having cleansed and sterilized the skin in this way, paint it over with flexible collodion. This will cover and protect the sore places.

There are other methods of treatment, but our experience in the New York City schools caused us to adopt this pretty satisfactory method.

ST. VITUS'S DANCE, OR CHOREA

WHAT TO DO

1. Protect the child from notice or ridicule of the infirmity.
2. Give a quart of pure, rich milk a day.
3. Have the teeth, tonsils, throat, nose, and sinuses examined for possible points of infection, and correct any that may be found.
4. See that the intestinal tract is in good order.
5. Build up the general health by play, fresh air, sunlight, moderate exercise, and good food.

THERE are afflicted children who have lost control of the voluntary muscles. Without apparent reason and without knowledge on the part of the victim that the thing is to happen, the face is drawn into horrid grimaces, the eyes wink rapidly, the head is jerked to one side, the shoulders are raised, the arms jerk, or some other muscle or set of muscles is acted upon, to the amazement of the onlooker and the unhappiness of the patient. For instance, the child cannot drink from a glass or cup without spilling the contents.

This disease is called St. Vitus's dance. It is so called because in olden times it was thought to be cured by a pilgrimage to the shrine of St. Vitus. The doctors call the trouble chorea.

It is usually found in childhood, between the ages of five and fifteen years. Excitable, nervous children are most often affected. Fright, anger, grief—some sudden and deeply felt emotion—may bring on the first symptoms.

Among the causes of chorea many things have been suggested. Heart disease and rheumatism have been counted important factors. Whooping-cough, scarlet fever, and anemia are not to be disregarded as possible causes. The impor-

tance of these common diseases is too often overlooked. The worst thing about them is the multitude of possible after-effects. Chorea is one of them.

Eye strain should be thought of as a cause. A great many spasmodic twitchings of the face and head have disappeared after the fitting of proper glasses or the correction of defective eye muscles.

In the care of these patients there is much to be done. In the first place, the poor little sufferer should not be laughed at or made to bear the agony of ridicule. He must be so placed as to escape this misery. Otherwise the cure will be much delayed. Common humanity should point out the importance of this suggestion.

The general health of the child should be promoted in every way. Many a poor youngster is the victim of underfeeding or of improper feeding. Undernourishment from either cause is fruitful reason for the trouble. A quart of pure, rich milk every day will go far towards a cure.

The teeth should be examined by a competent dentist, to determine especially if there are any unsuspected abscesses. In the public schools, the great majority of children have defective teeth, cavities, abscesses, or disease of the gums. Relief of the tooth disturbance may cure the chorea.

The tonsils and throat should be examined. Adenoids may be present. The intestinal tract must be cleaned, because disease here may be responsible for chorea.

Happiness, music, fresh air, sunlight, moderate exercise, and good food will go far towards causing recovery.

(See also *Rheumatism in Children.*)

SALIVATION

WHAT TO DO

1. Rinse the mouth frequently with lemon-juice or dissolve slippery elm tablets in the mouth.
2. Before eating, rinse with any alkaline mouth wash, such as listerine.
3. Find the cause of the symptom and remove it.

ANYONE who has had experience in singing or in public speaking knows how fear or anxiety will dry up the secretion of the mouth. Even old stagers have times when the mouth is as dry as a cotton ball.

The moisture of the mouth is supplied by certain glands, known as the salivary glands. When they function normally there is just enough saliva to keep the mouth, tongue, and lips moist and flexible.

The amount of saliva produced depends on the blood supplied to these glands. The larger the flow of blood, the more is the quantity of the secretion.

In health it is never necessary to expectorate—to spit, as it is commonly called. To be obliged to expectorate every few minutes is a sign of physical disability or of artificial stimulation of the salivary glands.

Many tobacco smokers are spitters. The tobacco irritates and excites the glands. In consequence, the flow of saliva is excessive.

Emotion produces peculiar results. It may excite the tear glands, causing crying. If it is a pleasurable emotion, provided by the smell of roast turkey, for instance, there may be an uncommon secretion of saliva.

Certain drugs, like belladonna, cause the salivary glands to stop their functions, and the mouth to become very dry.

That may happen to you when the eye specialist puts "drops" in your eyes in order to test them for glasses.

Other drugs, mercury for instance, have the opposite effect, causing a tremendous flow of saliva. The mouth and gums get sore and there is a constant drooling of fluid from the mouth and constant swallowing to get rid of it.

This condition is called salivation. It is not always due to drug action. It may be caused by disease.

Victims of salivation suffer greatly. The mouth gets very sore and eating is almost impossible. The gums are so swollen that they almost hide the teeth.

We have a mild form of salivation in babyhood when a tooth comes through with unusual difficulty. When salivary glands are excited to undue activity drooling may be pronounced.

What is the treatment for salivation?

If it is due to a drug, that fact must be established and the drug discontinued.

If it is due to some passing irritation, the salivation will pass away with the removal of the cause.

If the salivation is one of the symptoms of a disease, there is little hope of cure until the disease is overcome.

There are things which will promote the comfort of the sufferer. Rinsing the mouth frequently with lemon-juice or a weak solution of vinegar will promote comfort. Vinegar is harmful, or at least disagreeable, to some people, and of course if an individual finds that it does not agree with him, it should not be used as a mouth wash. One of the most soothing substances is slippery elm. Tablets of this substance can be had at the drug store, and they can be kept in the mouth continually to relieve the disagreeableness of salivation. Before eating, rinse the mouth with any alkaline mouth wash, such as listerine.

WHAT TO DO

To avoid an attack:

1. Teach children to keep the hands off the face and fingers out of the mouth, to wash the hands several times a day and always before eating, and to scrub the hands, face, and inside of the nostrils after returning from school each day.
2. Keep children away from all cases of sore throat.

To treat an attack:

1. If scarlet fever is in the community, look the child over each morning for signs of sore throat, fever, headache, and running nose, and if any of these symptoms is found, keep the child at home.
2. Put the sufferer to bed and send for the doctor at once.
3. Take all precautions—which the doctor will advise—to avoid complications.
4. Keep the sufferer completely isolated for at least a month.

SOME diseases are of little consequence, but scarlet fever is a thing to be dreaded. It is followed so frequently by disagreeable and blighting conditions that every parent seeks to protect his child against the disease. Many a school career has been interrupted by a visitation of scarlet fever, and many a life has been ruined by it.

In every great city there is rarely a time when large numbers are not afflicted. In every small community hardly a season passes without a period of closed school, on account of this disease.

The period of incubation of scarlet fever varies from one to seven days. The disease comes on suddenly and without warning. Vomiting or convulsions may be the earliest symptom.

Almost immediately the fever appears. This is very high, running to 104 or 105 degrees on the first day. The face is flushed and the skin excessively dry.

The mouth and tongue are dry. The throat is dry and sore. On inspection, the throat is found to be red and tonsils swollen. The tongue is red at the top and edge and the surface is rough.

The most characteristic symptom is the rash. This first appears on the chest and neck. There is general redness or flushing of the skin, with here and there red points. This involvement of the skin spreads, and in another day it covers the body. The entire surface takes on a brilliant scarlet color. The appearance explains the name of the disease.

After two or three days, the rash begins to fade. In a week or ten days from the beginning of the attack, the swelling, redness, and itching of the skin have disappeared.

When the redness and fever have subsided, the skin is left rough and dry. Pretty soon it begins to scale or peel. Whole casts of the front of the fingers may be stripped off, and great flakes or scales may be brushed from the entire surface of the body.

This stage is called the "period of desquamation," and it lasts two or three weeks.

The worst thing about scarlet fever is that it has so many complications. Inflammation of the kidneys, middle-ear disease, and involvement of the mastoid, inflammation of the joints, heart attacks, infection of the glands, and many nervous conditions are among the most serious of these secondary complaints. These usually develop late in the disease.

The patient is a menace to other children for at least one month, and for a longer period if any of the organs are discharging. Nasal and ear complications prolong the necessity for guarding against exposing others.

There is much to be done to promote the comfort of the little patient. Proper bathing and care of the skin will help to control the symptoms. The family doctor will watch for complications and guard against them.

Some day the laboratory will find a means of protecting against scarlet fever, as it has against other infectious diseases.

What can the parent do to protect his own child and the children of his neighbors?

In scarlet fever there is a stage where the skin scales or peels. It used to be believed that skin cast off during the period of desquamation carried the contagion. This is not an accepted idea at present. The disease is probably carried by the discharges from the nose and throat.

The peeling or scaling period is dreaded now merely because it coincides with the time of greatest discharge of the germs from the nose and mouth. The doctor should be in attendance until the child is entirely well.

Almost all the infectious diseases begin with a running nose. When a child wakes up with a sore throat, fever, headache, and running nose, he should be kept at home. This should be done for the safety of your own child, and your love of humanity will make you wish to protect the children of your neighbors, by taking no chance of letting your child carry infection to them.

In every schoolroom, from common colds, if not from more serious diseases, there are children who are snuffling, sneezing, and coughing. There is always the possibility of being sprayed by the explosive effects of a near-by child. The soiled hands of an infected child may carry the contagion to door-knobs, rulers, erasers, pencils, and so forth.

Your child should be taught to keep his hands off his face and his fingers out of his mouth. There should be thorough washing of the hands several times through the day and always before handling food. On return to the home, the hands should be scrubbed with soap and water and the face thoroughly washed. The insides of the nostrils should be washed out with the wash-cloth.

If scarlet fever is present in the community, look the children over every morning for the symptoms named. This is my advice to parents and to teachers.

(See also *Chills and Colds; Convulsions in Children.*)

SCIATICA

WHAT TO DO

1. Put the sufferer to bed.
2. Apply menthol vaseline or capsicum vaseline, followed by hot, wet cloths.
3. Correct constipation (See chapter on Constipation, Part II), and other intestinal abnormalities.
4. Have the teeth, gums, tonsils, and nasal sinuses examined for possible points of infection, and when such infections are found, have them removed.

ONE of the great nerves of the body is called the sciatic nerve. It runs along the back part of the thighs, from the hips downward. It has many branches which supply the buttocks and all this region, as well as the parts down the back of the legs.

Disease of this nerve is often associated with rheumatism or gout. On this account, sciatica—inflammation of the sciatic nerve—is often called sciatic rheumatism. As a matter of fact, its causes are not unlike the usually accepted causes of rheumatism. Cold, exposure to the weather, and chilling from wet or any other cause will bring on an attack.

The pelvis is that part of the skeleton forming the hips and the prominent bony middle part of the body. Within its cavity are the bladder and rectum and, in women, other important structures.

The sciatic nerve has its origin inside the pelvis; therefore certain disturbances or diseases here may produce sciatica. Any abnormal pressure upon this sensitive structure may produce pain in all the parts supplied by the sciatic nerve. Likewise, rectal disease or constipation may produce the symptoms of sciatica.

The chief symptom of the trouble is pain. This may be

in the hip, down the leg, and even in the foot. It may be constant, or may come and go. It may come on with sudden violent attacks. It may be cutting, or grinding, or burning, and is usually worse at night.

Walking sometimes increases the pain, because the structures are so very tender. The victim may walk on the toes or bend the knees to escape pressure on this nerve.

All the symptoms may last for months and even years. After an apparent cure, there may be other outbreaks.

Rest in bed, in the severe cases, is essential to relief. The leg should be kept quiet and hot applications made. The acute pain may be controlled, sometimes, by rubbing on menthol vaseline, or capsicum vaseline, followed by the application of hot, wet cloths.

In severe cases injections of various substances have been made into the nerve itself. This treatment is resorted to after other measures have failed.

The condition of the pelvis and all its organs must be determined and proper correction of any abnormalities made.

Needless to say, attention should be given the general health. If the teeth cause suspicion, they should be X-rayed and appropriate dental treatment given. Any focus of pus infection must be removed.

The constipation or other intestinal abnormality must be corrected. The sufferer must have plenty of fresh air and lots of sleep. Business or domestic worries must be removed by some sort of magic, and the patient must be given every aid, physical and mental, in order to be restored to comfort and health.

(See also *Neuritis; Rheumatism.*)

SHINGLES, OR HERPES ZOSTER

WHAT TO DO

1. Find the cause and correct it.
2. Have the sufferer take complete rest in bed, if possible.
3. Apply a soothing lotion, such as three tablespoonfuls of hyposulphite of soda to a quart of water, or powder with zinc oxide.
4. When the pus-filled eruption breaks, apply boracic acid or zinc oxide ointment and keep well covered.
5. If the shingles are about the waist or shoulders, be careful to have any clothing worn so loose that it will not cause irritation.

THE backbone is made up of a group of bones, called the vertebræ. Placed as they are, one above another, they form the vertebral column. Through the center of this column is a cavity, known as the spinal canal. This is occupied by the spinal cord, an important part of the central nervous system.

Arising from the spinal cord are a lot of nerves, called the spinal nerves. They escape from the spinal canal through the openings in the many vertebræ of the backbone.

Where each spinal nerve grows out from the spinal cord there are two roots. These roots furnish the attachment between the nerve and the parent cord.

The spinal nerves go out to supply all parts of the body. Certain ones go to the muscles, and others go to the skin. The skin or cutaneous nerves which supply the trunk, pass through the openings in the backbone, around the body, to the middle of the front surface of the body.

Just as an injury to, or disease of, the roots of a tree

will manifest itself by loss of foliage, so damage to the roots of a spinal nerve will be shown by disturbance in the skin supplied by that particular cutaneous nerve.

When trouble of this sort occurs, the first sign is redness of the skin in some particular region of the body. Almost immediately there appears a group of vesicles or blisters on the reddened area. The place most commonly affected is on the body, over the ribs.

The disturbed area is like a band, reaching halfway around the body, following the course of a given nerve. The irritated area resembles half a girdle or belt. This explains the name shingles, corrupted from "cengle," meaning to girdle.

Of course, herpes or shingles may attack any part of the body, depending on the particular part of the spinal cord involved, or the particular nerve root disturbed. I have seen a good many cases in which the shoulder was the seat of trouble. One of the most painful kinds is the rare form called herpes zoster ophthalmicus. This involves one eye, the neighboring parts of the nose and forehead, and it may extend up into the scalp, even to the crown of the head. One of the most common forms is the herpes labialis, commonly known as fever sores.

There may be pain in the part several days before the redness and eruption appear. Sometimes there may be fever and feeling of illness. After the blister appears, it gets cloudy in a few days, dries up at the end of a week, and forms a scab. This drops off in another week. Usually a small scar, not unlike the scar of chicken-pox, is left to mark the site of each blister. It is quite common, after herpes zoster ophthalmicus, to observe a string of little scars from the eyebrow, across the forehead, to the edge of the hair.

In old people it is not unusual to have neuralgia of the affected part, persisting for weeks or months after the acute symptoms have disappeared.

Some kind of body poison is responsible for the trouble,

probably, but the exact cause is uncertain. Personally, I look upon it as a tired man's disease. Overwork and worry will be found as factors in most cases. Certainly you should have a thorough physical examination if you develop shingles.

(See also *Nervous Breakdown.*)

SLEEP-WALKING, OR SOMNAMBULISM

WHAT TO DO

1. Build up the general health, correct constipation, if present. (See chapter on Constipation, Part II.)
2. See that the victim sleeps in a well-ventilated room, without excessive bed covering.
3. Have him avoid excitement and worry, as far as possible.
4. If a child or young person, see that his mind is not overstimulated by study or amusement.
5. When found walking, lead him back to bed quietly without awakening him.

MANY weird tales are told of remarkable things done by sleep-walkers. Murders and all sorts of terrible stories, as well as tender ones, are built around the habit.

The human brain is a marvelous organ. It controls the conscious acts of the body. It presides over its unconscious thoughts.

I have read of soldiers so fatigued by strain and lack of rest that they actually fell asleep and continued to walk along, utterly unconscious of their own movements.

It isn't difficult to understand how this could be. How many, many things we do without being conscious of our actions! Piano-playing becomes a perfectly automatic performance. Typists become so expert that their nimble and capable fingers never fail to strike the correct keys.

Some persons are so constituted that they sort of dream themselves through life. Unconscious brain action seems but a short step away from the conscious control of the body movements. It is easy for men, and especially women, of this type to translate into terms of action the vivid suggestions of their dreams.

The scientific name for sleep-walking is somnambulism. A great authority says: "The somnambulistic state is simply an exaggeration of the state of the dream."

These are big words, but when translated into our own language the idea becomes plain enough.

Some dreams are more real than others.

If they are distinctly vivid, the events of the dream may be so pronounced that the dreamer, having a part in his own dream, may actually get up to act out his own portion of the performance.

Anything which lowers the vitality, anything which plays upon the nervous system, may produce such irritation and sensitiveness of the brain that it is overresponsive to physical conditions. If you get too tired, your sleep is fitful and your sleeping hours are filled with dreams. If you have a tendency to sleep-walking, it will show itself at this time.

Worry, long-continued mental effort, and ill health, may produce just the right conditions to encourage sleep-walking.

Of course there are some folks who appear to have inherited this inconvenient habit. Ordinarily, it is observed in young people about the time of adolescence and disappears later.

Sometimes raising or lowering the pillow may help to prevent sleep-walking. Overeating before going to bed is bad for everybody, and especially for one who has this habit. Every attention must be given to avoid overwarmth in bed. Reduce the bed covering, open the window for fresh air at night, overcome constipation, and correct the general health —these are good rules to follow.

If the sleep-walker is discovered on his rounds, lead him quietly and gently to his bed and make no effort to awaken him until he is safely under cover. It would only add to the nervous condition of one already overwrought to give him the shock of being awakened away from his own room.

It is advisable that such a person sleep in the room with some one else.

(See also *Adolescence.*)

SNORING

WHAT TO DO

1. Overcome the cause of mouth breathing by correcting the nasal or throat troubles which interfere with normal breathing.
2. Break the habit of mouth breathing by making the snorer sleep on the side and keeping the mouth closed by means of a bandage or strap over the head and under the chin, or by strapping with adhesive plaster.

FREQUENTLY somebody writes to ask me about snoring I travel enough to know why. To be kept awake two or three hours by some noisy breather in the Pullman is not a pleasant experience.

We never feel any pity for the snorer. We would really like to take him out and kill him. Poor fellow! He can't help it.

But I must defend the men. They are not the only offenders!

Snoring in children is due to adenoids and enlarged tonsils. The breathing passages are interfered with, and it requires desperate efforts to get the air past the obstruction.

The usual cause for snoring in an adult is mouth breathing. No matter why the nose is occluded, the mouth drops open, and the air plays in and out of the wrong passage.

As we grow older, the tissues of the body relax. The structures of the throat are no exceptions.

Look at your throat in the mirror. In the middle there swings down a pendulous body known as the uvula. On each side of this is a thin curtain-like structure, known as the soft palate.

Underlying the mucous membrane covering the structure is muscular tissue. In youth it is firm and taut. In advancing life it becomes flaccid and relaxed.

Likewise the tissues below the parts you can see in the mirror are apt to become relaxed.

It makes little difference about this condition if the mouth is kept closed. But if you are a mouth breather, the regular and deep breathing you do at night may set thin relaxed curtains and tissues into vibration. Pretty soon the throat is all tuned up, as a finely conducted orchestra of stringed instruments.

All the remedial measures for snoring are founded in the effort to keep the mouth closed. Of course this is impossible if there is polypus, or other growth, or thickening in the nose. Chronic catarrh causes such swelling of the nasal tissues as to interfere with free breathing.

Sleeping on the back is a position which readily permits the mouth to open.

All sorts of devices have been suggested for keeping the mouth closed—such as adhesive plaster, a bandage over the head and under the chin, tying a handkerchief over the mouth —to force nasal breathing.

The cure or prevention lies in the correction of the nasal or throat troubles which interfere with normal breathing. When these defects are overcome, by sleeping on the side and providing for a closed mouth, the habit may be overcome, if the remedial measures are not too long delayed.

In old age, confronted with the habit of a life-time, the hope of cure is rather remote.

(See also *Adenoids; Catarrh, Nasal; Tonsils, Enlarged.*)

STAMMERING AND OTHER SPEECH DEFECTS

WHAT TO DO

1. **Take the sufferer to a specialist in nervous troubles, who will probably add to his treatment a recommendation for lessons by an expert in vocal training for the correction of speech defects.**

NOTHING is more embarrassing than a pronounced speech defect. The struggles and contortions of the afflicted mortal are painful to behold. His unhappiness is apparent and, unless he is very brave, he avoids the necessity for conversation. He does not want to be laughed at or pitied.

Stammering and stuttering are among the most common of speech defects. Lisping, too, is frequently met.

Cleft palate produces a peculiar and unmistakable defect in speech. This is entirely different from other defects, because there is an observable cause for the trouble.

Obstruction of the nose from catarrh or polypus interferes with proper resonance and gives a flatness to the voice. There is a peculiar nasal twang.

In stammering there is the substitution of many sounds for the one the person is trying to produce. In stuttering there may be terrible contortions of the face and mouth before any sound is uttered. When the word is produced, after all these efforts, it may come out perfectly normal and natural.

Stammering is sometimes the result of imitation. Unconsciously we imitate the manner of speech and the tone of one with whom we associate constantly.

When once the habit is acquired, it is difficult to overcome. The sufferer becomes sensitive. He stops talking, having lost confidence in himself. It is difficult, indeed, to restore this

confidence and to make the person believe he can really speak normally.

Most persons with speech defects breathe improperly. They must be taught how to breathe correctly before the trouble can be overcome. Much depends on perfect voice machinery. All the vocal organs must be normal in form, and then they must work together to give perfect speech.

If the hearing power is below normal, the victim will not be able to control his speech. It is a common thing to observe marked alteration of the voice in the totally deaf.

The last factor in normal speech production is proper brain action. Excessive nervousness, self-consciousness, poor brain circulation, or ill health, may disturb the speech centers in the brain. Excitement, emotion, and other psychological states may result in impaired vocal function.

Every patient with a speech defect must be studied as an individual. His particular case may differ in some respects from all other cases. Patience, persistence, and good sense are essential to the cure.

The child must be gently and kindly treated. By patient efforts the trouble may be overcome. With wrong treatment it grows steadily worse.

It must be said, in general, that experts in vocal training and in the correction of speech defects are sure to have better results than can be had by an amateur. Every large community has its clinic or instructor for speech improvement. Under trained supervision the most painful speech defects may be overcome, or, at least, vastly improved. The patient must not be discouraged. Even though he has tried several methods without success, let him not despair. There is hope for every sufferer.

WHAT TO DO

To avoid mouth infection:

1. Clean a child's teeth well, morning and night, from the appearance of the first baby teeth. The tooth-brush, any standard tooth-powder or paste, and dental floss are the implements required.
2. Have the dentist examine the teeth at least once every six months.

To treat pyorrhea in the early stage:

1. Have the sufferer use daily a tooth-wash made of two drops of the fluid extract of ipecac in half a glassful of water.

THE prevalence of dental defects is amazing. We know a lot more about all physical defects since the late war. Ten million men were examined in pursuance of the Selective-Service Act. Of all the rejections about eight per cent were on account of trouble with the teeth.

Unless you have investigated the causes of school absences, you will be astonished at what I am about to tell you. Forty per cent are due to ulcerated and aching teeth.

Mouth infections are alleged to be responsible for a multitude of ills. These ailments begin with shifting pains and end with hopeless invalidism.

Heart disease, rheumatism, joint disturbances, ulcer of the stomach, kidney disease, changes in the blood, intestinal irregularities, appendicitis, increased or decreased blood-pressure, diabetes, failing sight, neuritis, brain diseases—all these ailments have been attributed to mouth infection.

There can be no doubt that sleeplessness, nervousness, undernourishment, mental instability, and a lot of minor troubles may be traced back to defective teeth.

While the relation of dental troubles to general disturbances may not be so important as the overenthusiastic count it, nevertheless we cannot afford to ignore the teeth in every study of obscure disease.

There are two chief forms of mouth infection. The first is called caries. It attacks the tooth itself. The other affects the gums and tissues surrounding the roots of the teeth. This form is called pyorrhea or Rigg's disease.

Ulceration, or abscess, is due to decay of a tooth, or caries. This is a disease of civilization. It did not occur when men were barbarians, and it increased as they progressed in civilized arts and customs. The effect of civilization on certain African tribes is significant. For instance, one tribe less than two generations ago had caries prevalent to the extent of one per cent. In two groups of these same natives, living under the conditions of civilization, ninety-five per cent were found recently to have caries.

The tooth is well made to resist disease. It is covered with a very hard and compact substance, the enamel. But, like every other material in Nature, this dense substance can be destroyed. It gives way to the attacks made against it by the acids formed through the fermentation of food.

The mouth swarms with germs. This is no wonder, because we put almost everything in the world into it, including our own dirty fingers. Some of these germs have the power to convert certain foods into lactic acid. Sugar and starches are the particular foods which may be acted upon in this way. Let us consider for a moment the "sticky" foods of this sort—chocolates, biscuits, fresh bread, cake, pie crust, caramels.

Suppose we eat such foods at night and go to bed without cleansing the teeth. Immediately the acid-forming germs of the mouth go to work on this material lodged on our teeth. Enough acid is produced to cut off a layer or two of enamel. To-morrow the process is repeated, and after a while a cavity is eaten into a good tooth. Thus caries begins.

Pyorrhea follows injuries to the gums due to the accumulation of tartar. The sharp edges of this deposit wound the

delicate tissues. Beneath the edges of the gums the trouble starts. As the tissues dissolve, a pocket forms about the tooth, which is gradually loosened.

Such a pocket is a splendid culture bed for the growth of bacteria. They thrive and multiply here. Then they travel, by means of the blood and lymph streams, to remote parts of the body. In this way, the germs reach the joints, for instance, causing inflammation and deformity.

Lots of people have what they call rheumatism. Pains in the joints, pains in the muscles, pains worse in damp weather —these are the symptoms properly known as rheumatic pains. The sufferers think they have "taken cold," or they got wet, or sat in a draft. Perhaps they did all these things, but except for the fact that ugly germs are floating around in their blood, they wouldn't have rheumatism.

More and more the medical profession is attaching importance to localized pus-producing conditions. A pocket of pus anywhere in the body is a menace to the whole system. Chronic ill health is founded on some obscure defect. The secret of cure is hidden until its key is found. In an endless number of cases, in the experience of every physician, the teeth have been found to be the factor responsible for sickness and, too often, for fatal results.

When once you understand how essential the care of the mouth is, you will not neglect to use the tooth-brush every night and morning of your life. Brush the teeth not only sideways, but up and down. By so doing you may later escape disease of a serious nature.

It has been contended that in the beginning of pyorrhea a very simple procedure will do good. This consists of the daily use of a tooth-wash made up of two drops of the fluid extract of ipecac in a glass half filled with water.

Powdered chalk and orris root are the chief ingredients of most of the tooth-powders. It makes little difference what powder or paste is used. It is the tooth-brush and cleanliness which do the work. Dental floss may be employed to make clear the spaces between the teeth. By gentle effort the teeth can be cleaned and kept clean.

The teeth ought to be regularly inspected by a good dentist. Should there be the slightest suspicion of a deep-seated abscess, an X-ray picture must be made.

The care of the teeth should begin with the baby teeth and not be left off till the last tooth is gone.

THYROID GLAND AND MYXEDEMA

WHAT TO DO

1. Upon the appearance of any of the symptoms described in the following chapter, consult a physician who, if the diagnosis of myxedema is made, will prescribe thyroid extract in suitable amounts.

ON the front of the neck is the prominence called "Adam's apple." The thyroid gland extends across the neck just below the Adam's apple. This part of the anatomy is usually associated with the rather common condition known as goiter.

The thyroid is one of the ductless glands which are believed to have profound effects upon the growth, health, and general well-being of the body. When anything impairs the normal function of a ductless gland, there will be observed pronounced symptoms of bodily derangement.

Enlargement of the thyroid, or goiter, has certain familiar manifestations. Concerning this condition see the chapter on Goiter. In the opposite condition, removal or destruction of the gland, the secretion of the gland, which under the usual circumstances is absorbed by the body, does not form at all, or is greatly reduced in quantity. The victim, then, must go along as best he can without one of the important agents of normal life.

This unpleasant condition is called myxedema. It is most commonly met among women of middle life. The most conspicuous external sign of the difficulty is the swelling, puffiness, and waxy appearance of the skin of the face. The skin generally is rough and dry, because there is little perspiration. Falling of the hair is observed.

The mind is affected. Dullness, mental slowness, and loss of memory may be present. With the failure of memory

comes a suspicious and irritable attitude on the part of the patient.

The features are sometimes greatly changed. The face broadens, the lips thicken, and the mouth widens. The nose may grow thick and broad. The bodily movements are impaired.

The disease may be years and years, perhaps fifteen, in fully developing.

Myxedema may result from disease and withering of the gland, or it may follow an operation for goiter, with complete removal of the thyroid.

Cretinism is a similar condition found in infants and due to congenital absence of the gland, or early disease causing its destruction.

The myxedema patient feels better when warm. A warm climate or artificial warmth, therefore, will promote comfort. Hot applications and massage to the neck will help.

Since the absence of the thyroid secretion is responsible for the symptoms, it is not surprising that an extract made from the thyroid gland of animals will help the victim. This is the case, but, under no circumstances, should this powerful medicine be given without being prescribed by a physician. He must determine the quantity and dosage, or trouble may follow.

(See also *Ductless Glands; Goiter.*)

TOE-NAIL, INGROWING

WHAT TO DO

1. Pack the groove along the edge of the nail very lightly with a few fibers of cotton. Tight packing will be harmful.
2. If proud flesh has formed, paint twice a day with Monsel's solution of iron.
3. If the case is stubborn or of long standing, consult a specialist in foot troubles.

WE don't have to suffer from some terrible or fashionable ailment to be most unhappy. There are any number of simple things that sap our strength and make us ill.

One of these is ingrowing toe-nail, a condition in which the edge of the nail cuts through the soft tissues and becomes imbedded in the flesh.

The big toe is the one most likely to be affected. The size, thickness, and strength of this nail and the pressure placed upon it by the shoe combine to make it a source of trouble.

There are a number of predisposing causes of ingrowing toe-nail. The most common is the evil habit of wearing short stockings and tight shoes. A silk or cotton stocking is so soft and yielding that it does not seem possible for it to be responsible for a serious foot trouble. But it can be, and it is frequently the cause for ingrowing toe-nail. Constant pressure of the stocking upon the tissues results in pulling the soft tissues up and over the edge of the nail, and in pushing the nail into the flesh.

So far as short and tight shoes are concerned, it is easy to see how the hard and unresisting leather will have pronounced effects upon the nail and flesh of the toe.

Another cause of ingrowing toe-nail is improper trimming of the nail. If the nail is cut too closely, and especially if the corners are rounded off and the edges of the nail removed, there is trouble in store. Instead of clipping the offending nail closely, it should be permitted to grow long, especially at the corners. By cutting straight across, instead of in a curve, the nail is kept short enough for comfort, and yet the corners are not permitted to dig into the flesh.

Under no circumstances should the sides or edges of the nail be clipped. If there is tenderness in the groove along the edge of the nail, pack very lightly with a few fibers of cotton. This will offer some relief. Tight packing is apt to do more harm than good.

In neglected cases proud flesh forms. Then the trouble is more difficult to overcome. Monsel's solution of iron may be painted on a couple of times a day. This will give relief.

If the difficulty has persisted for a long time, it will be wise to see a specialist in foot troubles.

TONSILS, ENLARGED

WHAT TO DO

1. Have an examination for adenoids, and if present, have these removed.
2. If, after removal of adenoids, the tonsils continue to be enlarged or to give trouble, consult the doctor again.
3. Do not have the tonsils removed without due examination and consideration.

ONE of the common questions put to the doctor is: Should enlarged tonsils be removed?

It is conceded without argument or discussion that ragged, frequently inflamed and painful, obviously diseased organs are worse than useless. If such tonsils fail to yield to internal medication or local treatment, they should be removed. With this qualification, however, I must put myself on record as being absolutely and unqualifiedly opposed to the ruthless operative adventure involved in a decision to remove tonsils simply because they are large. To extirpate these organs because of what may happen if they are left, to my mind, is as absurd as it would be to cut off the child's toes for fear that he might have corns, or to remove one kidney to lessen his chances of nephritis.

I must be careful not to convey any false impression of my exact attitude. I recognize the strong probability that the tonsil may be the focus of a general infection, that occasionally it may be the gateway of admission for germs of disease, that a diseased organ is capable of both these evils. Therefore, proven that the tonsil is so subversive of its real function, whatever that may be, then, by all means, let it be extirpated, root and branch. But simply that the tonsil is large, as seems in many children to be a perfectly normal

condition, is not, in my opinion, sufficient reason or even excuse for its removal.

It may seem inconsistent with what has been said about the tonsils to state that I hold entirely different views as regards adenoids. The mouth breathing, the deficient aëration and impaired drainage of the middle ear, the broken sleep, the materially reduced intake of oxygen—all these are tangible and readily proven pernicious results of adenoids. To my mind, they bear an unmistakable relationship to the enlarged tonsils, too, and with the restoration of normal breathing, after removal of the adenoids, the tonsils are frequently restored to fairly normal appearance.

(See also *Adenoids.*)

TUBERCULOSIS

(ALSO KNOWN AS CONSUMPTION)

WHAT TO DO

1. Give an abundance of rich milk and nourishing food, including eggs, fresh vegetables, and fruit.
2. Have the sufferer live an out-of-door life.
3. Have all the air and sunlight possible in his bedroom, or let him sleep out-of-doors.
4. Have him avoid dust and smoke, overfatigue, and worry.
5. Have his doctor examine him frequently.
6. Take all precautions to protect others from the disease.

IF you have tuberculosis, you need not despair of getting well. But in order to get well, you must follow wise advice, and the sooner you begin the cure, the less serious is the ordeal.

Tuberculosis is a house disease. It is fostered by bad housing, poor ventilation, lack of sunlight, dust—by all the tenement-house conditions.

Undernourishment from lack of food or improper food is an important factor.

Worry, doubt, uncertainty, unhappiness, are factors. We cannot escape the effects of the mental state.

Alcohol, excessive use of tobacco, narcotic drugs, late hours, and all forms of dissipation predispose to tuberculosis.

Of course, there could be no tuberculosis without the germ of consumption. Tubercle bacilli are so well known that the disease they cause is referred to everywhere as "T.B."

Two things are needed to develop this disease: a right soil—the run-down body—and the germ.

The germ is everywhere. No one of us escapes it. If we are to believe many investigators, few of us escape actual invasion of our bodies by the germ.

A famous Italian pathologist examined seven hundred bodies of dead persons, taking them exactly in the order of their appearance in his autopsy room. He stated that in six hundred and ninety-seven of these were evidences of active or of healed tuberculosis.

I assume that he was dealing with the poverty-stricken or under-world variety of human being, but, even so, it is not pleasant to know how prevalent the dread disease is.

Fortunately, the germ of tuberculosis is a lazy, inactive, easily killed organism. A few hours in the sunlight will end its career.

Our grandmothers, even though they did not know the scientific reason for doing many things, were very wise in their day and generation. They used to hang the bedding and the contents of the closets on the clothes-line "to sun." Sunning will kill, not only the germs of tuberculosis, but also the pneumonia germs, and probably the germs of a lot of diseases we little understand.

We spend more hours in the bedroom than in any other single spot. Lives are made or broken by the kind of places in which the owners sleep.

No matter how small the room, it should be arranged to get the maximum of air.

It is too common a thing for the bed to be in the corner of the room and for two persons to sleep in it, one head thus being almost in the corner. Here one will get the least amount of air that could be provided, if that were the deliberate purpose of the plan.

Place the bed away from the side walls, if possible. Make it up so that it can be opened at the foot, with the pillows at the foot, instead of at the head of the bed. Then the heads of the sleepers are in the middle of the room, instead of against the wall, unless, of course, the poor little room is only long enough for the bed.

If thus making the bed brings the foot very close to the

window, which is to be kept open, the heads of the sleepers may be protected by placing a blanket or sheet over the foot of the bed to keep off the direct draft. A screen of some sort may be devised to protect from the wind. Do not fail, however, to have air, and all you can get.

If you have to ride on street-cars and you are very frail, make some excuse to stay on the platform, or keep near the door of the car. Dress in such way, with an extra wrap of some sort, that you are not afraid of car drafts or the open door.

Get into the sunlight as much as possible. Spend your Sundays in the sun.

Keep out of dusty places, drink milk, and eat good food.

Tuberculosis is not an inherited or inheritable disease. It is not a fatal disease, if you are determined to live and will live the right life to get well.

To avoid it, live an out-of-door life. Seek the sunlight. Breathe deeply. Eat real food.

The victim of tuberculosis must do his full part to protect his family and friends against infection. By appropriate care there is no danger to others. Children should be well protected. Adults run little risk.

TUMORS

WHAT TO DO

1. **Have the doctor examine any swelling or growth as soon as it appears.**

A SWELLING of any kind is called a tumor. If a stone hits your head and produces a big bump, you have a tumor. But, as the word is commonly used by physicians, it applies more strictly to a new and abnormal growth of tissue.

A very good term has been applied to such tumor. It is "neoplasm," meaning simply *new growth.*

If you skin your hand, taking off a lot of the surface, Nature causes new cells to form, and pretty soon the wound is healed. The new skin is just like the old, and it isn't long before you are unable to tell where the wound was. The new tissue has adjusted itself to exactly the location of the lost skin. This is normal growth.

Neoplasms do not act this way. The new growth may be like normal tissue, but it is out of place. It does not keep its proper position and form. It will not conform to the general rule, but does just as it pleases.

On this account, the neoplasm has been defined as "a tissue overgrowth which is independent of the laws governing the remainder of the body."

Tumors or neoplasms are of two varieties:

They may be harmless or "benign," or they may be "malignant," like cancer. When the doctor says you have a tumor he does not necessarily mean a cancer.

The manner of growth of these two forms is entirely different. The growth of the benign tumor has been well compared by a recent writer to the inflation of a toy balloon. It simply swells, or expands. It may press upon adjoining

tissues, but it does not reach into them or replace their substance.

The malignant tumor reaches into the substance of the tissue involved. It removes and absorbs the original tissue. Like the tree, it sends its roots into the soil, attacks its substance, appropriates its nourishment, and grows at the expense of the very soil.

The benign tumor can be removed in its entirety, and that is the end of it.

To get rid of it, the malignant tumor must be dissected and followed to the last root and branch. Even then, it may not be done with, because the malignancy may have been carried to remote parts of the body by the blood and lymphatics.

The causes of tumors have been discussed for generations. Diet, injuries, continued irritation, bacteria, and an endless number of other factors have been suggested.

Carcinoma, the most dreaded of the malignant tumors, is a terrible and all-too-common disease. In the United States it produces more than eighty thousand deaths annually.

Every tumor, whether in the breast, under the arm, in the groin, on the skin, at the edge of the lip, at the angle of the eye, or anywhere else, should be made the object of an examination by a physician. Whether benign or malignant, it demands attention.

If it is benign, the tumor is easily and completely removed. If it is malignant, early attention will permit of its successful management. Surgery, the X-ray, radium, and other measures are at your command.

It is an unfortunate fact that many a sufferer has hidden his trouble until it was too late to treat it successfully. Early attention is the secret of complete recovery.

Do not worry over a neoplasm. Do not be frightened at the word "tumor." Be sensible about it and take professional advice. Ninety-nine times out of a hundred there is a cure in the early stages of any tumor.

TYPHOID FEVER

WHAT TO DO

To avoid an attack:

1. **Consult the doctor about inoculation.**

To treat the attack:

1. **Send for the doctor upon the appearance of unexplainable chills, fever, feelings of discomfort, loss of appetite, or pain.**

ONE of the encouraging results of modern medicine is the practical elimination of typhoid fever as a cause of sickness and death.

It used to be a common and terribly fatal malady. In civil life it was one of the most dreaded of afflictions. In armies it was more fatal than all the weapons of war.

The Spanish-American War occurred about twenty-five years ago. Almost every regiment suffered from typhoid fever. Out of a hundred thousand soldiers, over twenty thousand had the disease, and more than fifteen hundred died. In the South African War more men died from typhoid than from the wounds of battle.

Contrast these terrible records with conditions in the World War. After the protective vaccine was used, the prevalence of typhoid diminished to one per cent of the amount present in the French Army at the beginning of the conflict.

We have learned the danger of impure water, of unclean milk, of shell-fish from polluted water, of uncooked vegetables, and of the house-fly.

We have learned that "typhoid carriers" exist. After having the disease, an occasional individual will carry in his person the germs of typhoid and for years may be a menace to society. This danger is guarded against by insisting upon

the examination of every typhoid patient before he is permitted to mingle with his fellows.

Under present conditions, great cities are freer from typhoid than are the rural districts. City water and milk supplies are under constant sanitary supervision. Active health officials are guarding against contamination and infection.

In every home provision should be made for pure water. The care of foods is of vital importance, and where the modern precautions are lacking the danger of the disease exists.

The vacation period is productive of typhoid. The summer boarding-houses and the cheap hotels are the danger spots; here there are neglect of sanitary precautions and the careless use of contaminated water-supplies.

In the fall, when they return from their outings, the city people bring back typhoid fever. If you have been away and suddenly develop vague symptoms of discomfort, fever, and real illness, you may suspect typhoid. Your doctor will look you over with this disease in mind.

After infection, it takes from one to three weeks for the fever to appear. The usual period of incubation is ten to fourteen days.

The patient may have the disease several days before he suspects he is really ill. As in almost every other disease, headache is usually the first symptom, although loss of appetite, diarrhea, or chills may usher in some cases. Again nosebleed or pain in the stomach may give warning of trouble.

The fever appears and for a week or so it gradually grows higher. As it increases, the appearance of illness grows apace.

If you have traveled recently, or if you have taken water and milk and food from doubtful sources, view such symptoms as this with suspicion. They may mean typhoid fever.

It is difficult, many times even for the doctor, to determine positively that typhoid fever is present. The symptoms may be obscure and the physician at a loss to know how to handle the patient. In such an emergency, a blood examination may be made. This particular test is called the "Widal reaction."

The value of this test depends on the fact that typhoid fever produces in the blood substances which have the power of stopping the movements of the typhoid germs and causing them to collect together in masses. These substances are called "agglutinins."

Suppose there were a lot of grazing sheep scattered over a field. If something were thrown into the pasture causing the sheep to gather in one flock and, instead of moving about, to huddle together in a mass, this would be like the effect produced on the typhoid germs by the substances which develop in the blood during typhoid fever.

If the typhoid germs are grown in broth, they are individually active until the agglutinating substances are added. Then the germs collect in clumps. To a solution containing typhoid bacilli is added the blood from the patient suspected of typhoid. In the blood of the patient are the agglutinins, and the clumping takes place.

The agglutinins are not found in the very beginning of typhoid fever. It takes five or six days for them to develop.

While this is not an invariable rule, yet it is pretty safe to assume that typhoid fever may be excluded if the agglutinins have not formed after nine or ten days.

The Widal test is more reliable in children than in adults. The reason for this is because the agglutinins persist in the blood for months and even years. On this account there must remain the doubt as to whether the clumping is due to the present disease, or to an attack of typhoid recovered from a long time ago.

But you will see that the laboratory test taken together with the symptoms observed by the doctor will help him in determining the presence of typhoid fever.

In the treatment of typhoid fever, diet and nursing are more important than ordinary medicines. It must be remembered that the patient is going to be sick a long time. On this account the bedroom or sick room should be a well-ventilated room and one which can be flooded with sunlight The bed must be prepared with reference to a weak and helpless sufferer who will have several weeks of illness.

Milk and other liquid foods form a large part of the dietary of the typhoid patient. The milk can be given in the form of ice-cream, cocoa or strained soups. Jellies, gruels and soft eggs are useful.

Unlimited quantities of water can be given to the typhoid patient. His happiness will be greatly increased if he can have water constantly at hand, and can frequently moisten his parched tongue and dry lips. Frequent bathing by sponging or the use of the cold pack may be employed. The baths are stimulating and increase the activity of the skin. Properly used they reduce temperature and materially promote the comfort.

Typhoid fever is a disease having many complications. Sometimes serious hemorrhages from the bowels take place. Your doctor will tell you about these and what to do in the emergency. I do not need to emphasize that hemorrhages in typhoid fever are like hemorrhages from any other cause. Quiet and cold compresses to the abdomen may control the bleeding.

When the patient reaches the convalescent stage it is very important to be careful about the food. Coarse vegetables and heavy foods must not be given until the inflamed bowel has a chance to heal. It is not unusual to have relapses, and even after the temperature has become normal it may suddenly shoot up and cause trouble. In such an event the patient should be put back to bed and kept quiet.

Bear in mind always that the discharges from the typhoid fever patient contain the germs of the disease. They must be dealt with in such a way as not to risk the contamination of other members of the family or the neighbors. In Part III, in the chapter on Disinfection and Fumigation, are given full instructions regarding this matter.

No matter how ill the patient seems to be, with care in the nursing, proper selection of the food, and the administration of the remedies prescribed by your doctor, there is every hope that a happy recovery will take place.

ULCER OF THE STOMACH

WHAT TO DO

To prevent the condition:

1. Correct constipation and digestive trouble in the early stages. (See chapters on Constipation, Part II, and Heartburn, Part I.)

To treat the condition:

1. Consult the doctor, who will prescribe diet, medication, or surgical treatment.
2. Have the sufferer rest in bed in a well-ventilated room.
3. Give good, simple food and lots of water to drink.

MUCH more frequently than is commonly known, the stomach becomes ulcerated. It may be said that some ulcers of the stomach are no more significant than canker sores in the mouth. After all, however, if the health is vigorous and the tissues of the stomach are firm and normal, there is no likelihood of ulceration or more serious disturbance.

The stomach is a peculiarly shaped organ, lying across the body, with the more prominent part to the left side. It tapers off at the outlet, on the right side, where the contents pass into the beginning of the intestine—a part called the duodenum.

The walls of the stomach are made up of muscular tissue. The muscle fibers run in different directions, making several thin layers. The lining of the stomach is a thick layer of mucous membrane.

When an ulcer forms, it rarely extends into the walls of the stomach any deeper than the muscular layers. Of course, when it bores its way entirely through the stomach wall, pro-

ducing a perforation, it has caused a very dangerous condition.

There are certain signs which give rise to the suspicion that ulcer is present. Dyspepsia is the common symptom. It may be very slight, but usually sickness at the stomach and vomiting are observed.

The period of time after eating gives a hint of where the ulcer is located. If it is in the usual place, near the outlet of the stomach, the pain and vomiting occur two or three hours after taking the food.

Pain is characteristic of ulcer. There are several different types of pain. It may be merely a burning sensation, or it may be a gnawing, aching, nagging pain. Sometimes the discomfort is worse when the stomach is empty. At other times there is no pain except after eating. Pressure over the stomach may relieve the discomfort, but usually there is tenderness on deep pressure.

If the trouble continues for a long time, there is sure to be loss of weight. It is difficult to tell whether the ulcer causes the ill health, or whether ill health is responsible for the breakdown of the stomach lining. In any event, emaciation is one of the accompaniments of ulcer of the stomach.

Of course, there are many factors entering into the production of ulcer. I am firmly of the opinion that neglect of the intestinal tract has much to do with those conditions of the stomach which lead to ulceration.

Fermentation in the bowel and the acidity which results are factors of importance. Chronic constipation should not be neglected. The things which lead to constipation are capable of causing congestion of the stomach and excessive acidity of its contents—forerunners of trouble.

Sometimes I think it serves folks right if they get stomach ulcers. Their lack of decent eating, a decent amount of labor, and decent hours of sleep are responsible for run-down health, which prepares the way for stomach trouble.

If ulceration occurs, it may be overcome, in most instances, by care and good treatment. Sometimes operation is re-

quired, but first you should see what rest in bed, fresh air, well-regulated diet, and medication will do.

I wish I could impress on every young person how essential it is to build up a strong, vigorous body. Ulcer of the stomach, like most other diseases, is merely the result of neglect and abuse of the body.

Good, simple food, lots of water to drink, fresh air, sleep, and mental happiness are preventives of ulcer of the stomach and all other ailments.

(See also *Constipation; Heartburn; Indigestion.*)

VARICOSE VEINS AND RUPTURED BLOOD-VESSELS

WHAT TO DO

1. Have the sufferer lie down, and elevate the part. Use this treatment systematically.
2. A bandage or elastic stocking to support the tissues will probably be advisable if the trouble is in the legs.
3. Consult the family doctor.
4. Build up the general health.

RUPTURED blood-vessels and enlarged veins produce blemishes to beauty, discomfort, and even pain.

A ruptured blood-vessel in the white of the eye seems most alarming to the victim and his friends. Really, bad as it looks, it is a matter of little importance, if due to an injury. If it is due to high blood pressure or weakness of the blood-vessel walls, it is more significant. Usually it comes from some sort of accident, which has caused a slight blow to the eye or eyelids. As a result, one of the tiny blood-vessels is cracked enough to permit a little blood to leak through into the tissues of the eye.

If you place one piece of glass on another and let a drop of water enter between them, you know how the water will spread out and cover a wide area. The tissues of the eye are arranged in layers. A drop of blood between two layers will spread out exactly as the water acts between the panes of glass. The extent of the effusion of blood is out of proportion to the significance of the injury.

With no treatment whatever, the blood will begin to absorb in a few days and will have disappeared within a couple of weeks. It is well to have the oculist look over the eyes if there should be repeated attacks of the trouble without known cause.

A "black eye" or a bruise anywhere on the body, with

discoloration of the skin, will have symptoms due to the escape of blood into the skin or deeper tissues.

When they first occur, conditions of this sort are best treated by cold applications. Later on, the removal of the discoloration is hastened by hot applications and gentle massage.

Besides these conditions where the blood-vessels actually break, there are others where the vessels stretch. The vessel walls lose their elasticity and gradually dilate. In the arteries the resulting condition is called aneurism. If the veins dilate in this way, they are called varicose veins.

The veins most commonly affected are in the lower part of the body, especially the legs. Usually, too, the most superficial veins are the ones involved.

The only veins noticeably enlarged may be the small veins of the skin, on the upper part of the thigh. Here and there will be blue, ragged lines, as if made by a blue pencil.

The more serious conditions are those where the veins of the legs between the knees and ankles are swollen, twisted, and knotted. These enlarged veins sometimes stand out so prominently and the tissues look so stretched and thin that we wonder why they do not break.

Undernourished and hard-working persons, especially those who stand much on the feet, or walk a lot, are most likely to be troubled. The soldiers of the Civil War, because of long marches and poor food, were commonly attacked by varicose veins. Washerwomen or laborers of any sort who are on their feet most of the time are often afflicted.

Barbers, clerks, messengers, inspectors, and the followers of any other calling demanding an upright position for many successive hours, are apt to have varicose veins. Childbearing is a frequent cause of this condition.

In themselves, varicose veins are not serious. Unfortunately, however, the skin overlying the veins may become inflamed. This inflammation may take the form of eczema, or there may be an actual melting away of the skin, with the formation of an obstinate ulcer, slow to heal, and more inclined to spread.

If there is a tendency to enlargement of the veins, and no ulceration or inflammation is present, the trouble should be overcome as much as possible by elevating the part. In some cases the doctor may advise gentle massage.

This should be done systematically. In addition, it may be advisable to wear a bandage or an elastic stocking to support the tissues. The support, used without massage and general treatment, acts simply as a crutch and is not curative.

To get at the root of the difficulty, the body must be built up, the general health made as good as possible, dyspepsia and constipation corrected, and the general welfare given every consideration. The family doctor will make sure that the heart, kidneys, and intestines are doing their work. The general circulation should be stimulated by baths, gentle exercise, and massage.

WHAT TO DO

To remove warts:

1. **Apply daily to the wart, salicylic acid in alcohol or collodion, in the proportion of ten grains of the acid to one ounce of the alcohol or collodion.**
2. **Use an abundance of soap and water, dry, and apply alum or boracic acid.**

To remove moles:

1. **Consult a doctor who may advise the electric needle, the X-ray, radium, or carbon dioxide snow.**

MOLES are usually birthmarks, "mother's marks," as they are called. That is, the skin defect is present when the baby is born. Generally they grow larger as time passes. Coarse hairs, too, grow out from the center of the mole and contribute to its beauty-spoiling qualities.

Moles vary in size from the head of a pin to the size of the hand. They may appear anywhere on the body. They are brown or almost black in color. Almost always they are covered with hair.

In and of themselves, moles are of no consequence. The trouble about them is that in advanced life they may degenerate and develop into malignant growths. On this account, it is wise to have them removed, especially if they show any tendency to increase in size.

Small moles may be removed by the electric needle. The X-ray, radium, and dioxide snow have been successfully employed in getting rid of moles. All these methods of treatment should be applied by a physician who is expert in their usage.

A large mole may be carefully cut out and the edges

drawn together. This sounds formidable, but really it is a very trifling operation.

I have told you that moles are congenital defects, but warts are not. They appear long after birth.

There is a popular idea that warts come from playing with toads. A toad is such a wart-covered and ugly little beast that there is no wonder people have thought it capable of conveying some horrid disease. Like a lot of other popular ideas, this is untrue.

Children, especially boys between ten and sixteen, are peculiarly liable to warts. It is probable that there is a germ of some sort responsible for their appearance. It may be planted in the site of a trifling injury and thus get a start.

Warts are of little consequence in children, except in so far as they disfigure the hands. In old people they may degenerate like moles.

If the wart is very small, it may be clipped off and iodine applied to the base.

Sometimes salicylic acid is curative. It is applied in alcoholic solution, or it may be dissolved in collodion and painted on the wart. Use ten grains of the acid to one ounce of the alcohol or collodion. It takes some time to get results from these daily applications.

The electric needle, the X-ray, radium, and carbon dioxide snow are used by the skin specialist.

Cleanliness is of the greatest importance. Sometimes an abundance of soap and water, followed by drying and the use of some powder like alum or boracic acid, may be helpful.

Left to themselves, warts disappear as if by magic. This tendency to spontaneous cure gives foundation to the virtues of certain mysterious rites which are "guaranteed" to cure.

WHOOPING-COUGH

WHAT TO DO

1. Keep the sufferer away from other children until the "whooping" attacks have stopped.
2. Give a teaspoonful of honey and lemon-juice, in equal parts, to relieve the violence of the coughing.
3. Keep the patient in the air and sunshine as much as possible.
4. Consult the family doctor and build up the general health.

WE poke fun at whooping-cough, but it is really a serious disease. One reason why it is dangerous is because it has a habit of leaving the lungs in bad condition. It makes them the ready victims of secondary disease. Pneumonia, bronchitis, and tuberculosis are not far behind the neglected whooping-cough patient.

It is natural to think of whooping-cough as exclusively a disease of childhood. As a matter of fact, some of the worst cases of this disease I ever saw have been in grown persons. When it attacks an elderly person, the condition must be viewed with genuine apprehension.

We are always disturbed over the mere mention of the word *epidemic*. Whooping-cough appears usually in epidemic form. It may sweep through a school and attack every susceptible person.

Almost every winter, in every community, there will be a more or less serious invasion of the schools by this disease. It is not uncommon to have measles first and then an epidemic of whooping-cough, or vice versa.

Whooping-cough is believed to be due to a germ called the Bacillus pertussis. It is carried by the discharges of the throat and lungs.

The contagion may be transmitted by infected persons or by infected cats and dogs.

The discharges coughed into the atmosphere or conveyed on soiled linen, may give the disease to another. Fourteen days usually elapse between exposure and the beginning of the attack.

Whooping-cough in the beginning seems like an ordinary cold. The nose runs, and there may be some hoarseness and a loose cough. This stage lasts for a week or two.

Then the "whooping" begins. There is a spasmodic cough, followed by deep, crowing intake of air. These attacks are violent and prolonged. The child feels as if he would die and is frightened at times. Vomiting may follow the attack of coughing.

Loss of food and broken rest result in loss of flesh and a general run-down condition. This stage lasts about a month.

The final period may be prolonged for several weeks. In this stage there are occasional coughing spells and once in a while a slight "whoop."

The disease invariably runs its regular course, but sensible care will lessen the severity of the paroxysms and maintain general health. Fresh air and sunlight are the great essentials. Select the sunniest room and have it freely ventilated. Unless there is fever or some obvious reason for keeping him in bed, let the child play about. In good weather bundle him up and let him out-of-doors.

The sufferer should be kept away from other children until the regular whooping spells have stopped. He should be taught to protect his nose and mouth while coughing, catching in his own handkerchief all the dangerous droplets of infection.

Don't fail to watch the little patient, and, unless he begins to improve in health and flesh after the second stage, have him carefully examined by the doctor. This cough, like every other cough, must not be neglected.

Some simple cough remedy like honey and lemon may be soothing, but the medical treatment should be conducted by your doctor.

WHAT TO DO

1. Give soft food in limited quantities for two days.
2. On the third day, give only liquids, such as milk or broth.
3. Give a tablespoonful of castor oil on each of these three nights.
4. If the oil does not operate freely, follow it with a tablespoonful of milk of magnesia in the morning.
5. On the morning of the fourth day, give the dose which is to expel the worm. Consult your doctor as to a safe remedy.

IT is not particularly dangerous to have worms. One might be so afflicted for a long time and have very few signs of trouble. But when once it is known to the victim that he has worms he is uncomfortable and is apt to imagine all sorts of symptoms.

There are two chief varieties of tapeworm. The pork tapeworm has a head fitted out with tiny hooks and with suckers. This worm can attach itself to the tissues, and with the suckers extract nourishment from the body of the human host.

This kind of worm is called the "armed tapeworm." It is rarely found in the United States, but is more frequently met in Panama.

The common type of tapeworm met in America comes from beef eating. It is less formidable in its make-up than the kind I have just described. It has no hooklets, and on this account it is described as the "unarmed tapeworm." However, it has suckers like the armed tape, and is capable of anchoring itself to the lining of the intestine.

It is surprising to what length these worms may develop.

Twenty or thirty feet may be reached. It would seem almost as if the worm would choke the bowel. These worms live at the expense of the human being who carries them. They do not possess digestive organs of their own, so, like all parasites, they live on food they have no business to appropriate. Floating about in the human intestines, they seize upon material which gives them a splendid living without work.

There is never any question about the presence of the tapeworm, because sections are always passing from the bowel. They may be very short, or several yards may come away.

Delicate and nervous persons have more signs of trouble from this cause than robust individuals. Chief of them is pain in the abdomen, or at least an aching in this region. There may be sickness at the stomach, sometimes vomiting and diarrhea. There is apt to be loss of weight and the colorless appearance of anemia.

A rather common symptom is ravenous hunger. The child is feeding himself and the worm, too. Loss of flesh is observed, in spite of the eating of excessive quantities of food.

Whenever the worms are passed, burn them up at once. Do not throw them where they are capable of doing any harm by spreading the disease.

In speaking of this condition, I want to make it clear to you that your doctor should examine the patient and decide whether it is safe for him to take the rather heroic treatment necessary. Do not overlook this precaution. Some years ago I was scolded by a dear old doctor friend of mine who said it was dangerous to give advice for this condition. He said somebody unfit for severe measures might die from their effects.

Several drugs are used to get rid of the worms. No matter which one is to be tried, the preparation is the same. It takes several days to get into condition for the "cure."

The accepted plan is to give soft food for a couple of days, strictly limiting its quantity. On the third day no solid food should be eaten. Only liquids, like milk or broth, should be taken.

Every night for three nights a tablespoonful of castor oil should be given. If this dose does not operate freely, give a tablespoonful of milk of magnesia in the morning.

On the morning of the fourth day give the dose which will expel the worm. Now as to what particular drug is to be given, I beg of you to talk with your doctor. There may be specific reasons why this or that drug is not safe for the use of a certain person. Your doctor will advise you.

The remedy usually prescribed is either the ethereal extract of male fern, or pumpkin seeds. The treatment is a success if the head of the worm comes away with the worm.

Before we knew as much about disease as we know at present, it was the common belief that half the complaints of children were due to intestinal worms. If a child ground his teeth, that proved he had worms. Anybody who was thin and plainly undernourished was suspected of harboring worms.

As a matter of fact, this trouble was much more common in former years than it is now. The advanced regulations in food control are guarding us against infected and polluted food. There can be no doubt that governmental oversight of slaughter houses and of slaughtering has done much to lower the number of infections of this sort. The watchful eyes of the inspector are a great help.

It is not uncommon, however, for children to be troubled with round worms, or what are known as pinworms, seatworms, and threadworms. Irritability, sleeplessness, pruritis or itching about the bowel, grinding of the teeth, fidgets, or irregular and ravenous appetite should lead the parent to suspect their presence and to examine the feces for evidence of it. If found, all excrement from the child should be burned, and clothing, toys, toilet articles, and other things handled by the child should be boiled to prevent further infection from the eggs of the parasites.

The dose for this condition is a simple one, consisting of santonin and calomel. The patient may be prepared for the dose in the same way as for that given for tapeworm. It is

not necessary, however, to remain on the light diet for more than twelve hours.

Follow the dose by a tablespoonful of castor oil taken before breakfast.

Rectal injections of salt or quassia seeds taken after the oil acts, will also prove beneficial. Use two teaspoonfuls of salt or one ounce of the seeds to a pint of warm water.

PART III

GENERAL ADVICE

WHEN TO CALL THE DOCTOR

THERE is a French proverb reading like this: "When a man is dead, it is no use calling in the doctor."

Surveys of certain counties in America prove that hundreds of families rarely, if ever, call a doctor. Unfortunately, there are plenty of families too poor to pay large fees to private physicians, but they are not the ones who suffer. These persons have the good sense to go to clinics and dispensaries where, without monetary reward, the ablest physicians of the community give medical advice. In consequence, the lowest illness and death rates are not found among the poor. For instance, the densest area of population on earth is a group of ten blocks on the east side of New York City. This area showed during a recent year a death rate among babies of fifty-two per thousand, while the rest of the city had a death rate of eighty-five.

There can be but one explanation for this: The poor people trust the hospitals and the health authorities. They go to the baby health stations for advice.

The death rate of a community depends largely on the quality of the medical service rendered. Where the doctors are and where they are patronized by the population, there the death rate is lowest. The time to call a doctor is in the beginning of illness.

If you owned a full jeweled and time-striking watch, you wouldn't tamper with its machinery or give it over to a blacksmith if it failed to run. You might shake the watch and in a gentle manner try to coax it into activity. But if these harmless efforts failed, you would take it to a watchmaker. In the choice of a watch repairer, you would take advice or would go to a man of established reputation.

Why treat your body with any less consideration?

You should know all you can about your body. The more you know about the simple methods of treatment the better. But when you are in doubt, "play safe"—see your doctor.

It should be your rule of life to learn how to keep your body from disease. When you live right, you won't get sick. Sickness is the result of your mistakes, or is due to the neglect of somebody else to protect you from disease.

One of the first questions the doctor asks you is: "How do you think you got this way?" Almost always you can give a pretty definite answer.

You have overeaten or have eaten the wrong food, you have lost sleep from worry or from apparent necessity, you have neglected to exercise and to care for your body needs, you have exposed yourself to the germs of infection.

Knowing how to live, it is your own fault if you neglect the rules of the game. When you are penalized you have no right to complain.

But if you are sick, no matter what may be the cause, you require as good care as you would give your watch. Go to your doctor, if you have one. If you have no doctor, find one in whom you can confide.

You may say, "I am too poor to pay a doctor." If you live in a city, there is no excuse for lack of treatment on account of poverty. There are any number of clinics where treatment is free, or where it may be obtained for a dime.

Almost every state or county has some sort of an official or official body whose business it is to inspect and approve all public clinics and hospitals. They are under official control, and, therefore, may be considered reliable places to go for treatment. In one of these you should get as good treatment as you would in the private office of the best doctor in town.

If you get a cinder in your eye, you poke at it and have one of your friends try to pick it out. The corner of a handkerchief none too clean, a match whittled to a point, or a hairpin may be employed.

You have a pimple on your face and dig it with a pin. You pinch it with soiled fingers.

No wonder you get an infection and endanger your eyesight or your life by such carelessness.

You take cold and go about your affairs half sick for a

day or two. You land in the hospital with a serious case of bronchitis or even pneumonia.

Whenever you have a temperature which persists after any acute intestinal trouble has been corrected; whenever you have a rash the cause of which is unknown to you; or whenever you have any symptom which you do not understand, lose no time in calling the doctor.

It takes more sense to call a doctor than to call an undertaker. The dullest idiot in the neighborhood knows that a dead man needs a coffin, but it takes brains to call a doctor when he is needed.

You don't have the blacksmith draw up your legal papers. You never ask the milkman to plaster your house. But when it comes to illness or injury people run to anybody for help, forgetting the doctor until, in many cases, it is too late. The doctor cannot perform miracles. When a man is dead, it is no use calling in the doctor. Make the doctor your friend and confide in him at all times. It is well to have an examination made by him once or twice a year, to take stock of your general condition.

GENERAL ADVICE IN FIRST AID

SUCH wonderful results have been had by modern surgeons that it seems odd there should be any present-day necessity for arguing in favor of cleanliness—surgical cleanliness. But, even now, there are many who think the painstaking care of the surgeon is all nonsense.

It is all too common a practice for a man injured in a factory or on the street to receive well-intentioned first aid from his fellow-workmen or from a bystander.

A year or two ago I saw a woman faint and fall on the pavement in one of the cities of England. I took charge, being the only doctor at hand, and the chief service I rendered the victim of the accident was to keep off her bleeding face the filthy salve one man offered and the liniment tendered by another. I am confident I spared her additional infection and confined the trouble to such germs as the streets of Birmingham possess.

The average layman has his favorite first-aid remedy, and many a man carries it with him. Do you know that many such remedies, unless they are freshly prepared, are homes for the growth of germs? It makes me shiver to see what vile stuff is plastered or poured on the damaged human body. Eye-drops are kept in the house for years, and when an eye is inflamed it is drowned in a bath of germ-filled poison.

I was on the witness stand a while ago testifying regarding the home treatment of a damaged eye. The Judge seemed to think me a heretic when I characterized the application of bread-and-milk poultice as a crime against the body. "Why," he said, "my mother used that whenever one of her children was hurt." "So did mine," I replied, "but the dear souls were wrong!" I am sure the Judge considers me very unfilial, if not actually unscientific.

The value of such a poultice is the good which comes from

the application of heat. Unfortunately, there is not heat enough to do much good, but there is enough to permit the growth of endless colonies of germs, some of which may be pus-producing. Then the poultice softens and moistens the tissues so that the germs have prepared for them an easy place of entrance into the body.

A ten per cent solution of argyrol, or other similar silver salt, may be dropped in the eye, if it is damaged. This is far better than any poultice ever made.

For cuts of the hands or other skin surface apply a three per cent solution of iodine.

Keep the affected parts free from infection by cleansing at least once a day with peroxide and water, half and half, or with hot water and pure castile soap.

A piece of gauze, linen, or muslin will protect against the entrance of dirt or other germs. This may be gently applied and kept in place with a bandage.

Never handle or touch a wounded surface until your hands have been thoroughly washed with soap and an abundance of water. Unless this care is exercised, the fingers or finger-nails may carry into the wound enough grease or dirt to cause destruction of any amount of tissue.

Let a wounded and bleeding surface be treated as a sacred thing. This may seem ridiculous to some, but I assure you that nothing is better established than the importance of surgical cleanliness. Never tamper or fuss with, or pick at, a cut or sore. Keep it clean, protect it from outside contamination, and you will have done much to hasten healing.

Some years ago a group of doctors to which I belong studied the problem of instructing laymen in first-aid procedures, and worked out the contents of such a first-aid outfit as might properly be given into lay hands.

The first advice we decided should be given was this: The person rendering first aid must not consider himself a substitute for the physician. He should do only the absolutely necessary things to preserve life or promote comfort until the doctor can take charge of the case.

In this household kit should be several bottles of drugs.

These may be two-ounce bottles. Each should be plainly labeled. The names and uses of the drugs are as follows:

1. Iodine, a three per cent alcoholic solution. This should be dropped into a wound if the skin is broken. Also a seven per cent solution, to paint around a wound or over a bruise.

2. White wine vinegar. In burns from alkalies, like plaster, potash, lime, and ammonia, the parts should be flooded with vinegar, which neutralizes the alkali.

3. Boracic acid, a four per cent solution in water. In burns or injuries to the eye, this solution may be used freely to wash out the eye.

4. Aromatic spirits of ammonia. In fainting, after consciousness has returned, or when one feels faint, one-half a teaspoonful in half a glassful of water may stimulate the heart and hasten recovery.

5. Jamaica ginger. In chilling, or for an actual chill, a teaspoonful may be given as a stimulant. It is useful, too, in cramps or colic.

6. Bicarbonate of soda, a three per cent solution in water. For an acid burn, the affected parts should be flooded with this solution.

7. Castor Oil. In constipation a dose of a tablespoonful may be given.

8. Besides these bottles of liquids, there should be a jar or tube of "burn ointment." This is a three per cent mixture of bicarbonate of soda in vaseline. After any burn from heat, from acid, or from electricity, the parts should be cleansed and smeared with this ointment. Then squares of gauze should be laid over the burned places and held in position by a bandage.

9. A teaspoon and several paper cups should be included in the outfit. The spoon is used to give the medicine, and the cups may be employed as little basins to hold the fluids needed in dressing the wound.

10. A medicine glass, marked with the liquid measurements, will be useful at times. Two or three medicine droppers are needed.

11. Half a dozen tongue depressers and a few wooden applicators will be good things to add.

12. Adhesive plaster, a small roll, one inch wide, and a roll two inches wide. In closing wounds, keeping dressings in place, or strapping foot or chest, the adhesive will be found invaluable.

13. Absorbent cotton, a two-ounce package, should be in the kit.

14. Bandages. There should be at least a half-dozen rolls of bandages, one, two, and three inches wide. If these are five or ten yards long, you will always have plenty of bandage material for any emergency.

15. Several packages of gauze, six inches wide and several yards long. This material is an important part of any surgical dressing.

16. A piece of flannel, two or three feet square, will be very useful if hot applications are demanded. It can be used, too, as a sling, if necessary. It will be well, also, to have a triangular piece of cloth for use as a sling in case of a broken arm.

17. A dozen safety pins of various sizes. These will fasten the bandages.

18. A tourniquet is required to control bleeding. For this purpose a piece of small rope, twine, or a specially made rubber binder may be used. There are several very simple devices of this sort to be had at drug stores and surgical supply houses. Of course, the rope or twine tied about the limb, above the bleeding vessel, and twisted tight by a piece of wood inserted under the string, will do the work, but the specially made tourniquet has a fastener to hold it when once applied.

19. A pair of scissors to cut the bandages and gauze, and a pair of simple forceps will complete the equipment.

All these things should be kept in one place. If they are in a box or basket, they can be carried to the place where they are needed. The Conference Board of Physicians recommended that all these supplies be kept in a glass-covered glass

jar. This keeps them dry and free from dust. More particularly, the transparent jar is desirable because you can see through the sides and top and thus locate the needed article at once. In the confusion of accident or emergency, it helps a lot if there is not the slightest delay in getting the things you need.

CARE OF THE SICK AT HOME

IF you must be sick, go to a hospital, if possible. If you cannot go to a hospital, then your sick-room at home must be converted into the nearest possible approach to a hospital room.

You will recall that hospital rooms and wards are bare of all adornment. There are no gimcracks, rugs, or other dust-collecting objects.

The sick-room should be prepared by taking down the curtains and hangings. Remove the heavy furniture. Take all the knicknacks off the dresser, and eliminate everything that interferes with cleaning and dusting.

Use a damp cloth for dusting purposes, so that the air will be kept clean and pure.

The windows must be made to move up and down easily. The patient should be protected against direct drafts. To this end, it may be well to provide a muslin screen for each window. This is made by stretching a piece of thin muslin over a frame which fits the window.

In fly-time, it is needless to say, the window has mosquito netting, or some other kind of screening, to keep out insects. Over each window a dark shade should be placed, so that the amount of light may be controlled.

The bed should be so placed that the nurse or attendant may walk around both sides. It should be located with reference to the window, so that the light will not shine into the eyes of the patient. It is a joy, however, to a sick person to be able to look out of the window. Views of the outside world assist his recovery.

The door should have the hinges oiled and be provided with a lock. In making the dressings and bathing the patient there are times when privacy is demanded.

There may be limitations as to the amount of help in the

household. One person may be nurse, cook, chambermaid, and orderly. Even so, the patient's tray must be daintily served. The food is one of the most important items in the essentials of speedy recovery. A sick person has an appetite which must be coaxed. With no exercise and with the effects of the disease, there is no longing for meal-time. A limited number of pretty dishes, a clean napkin, and a flower on the tray will add to the happiness and promote the recovery of the sick one.

When the patient is able to sit up, he should have a comfortable chair, a pillow for the small of the back, and be so placed as to get a new view of the outer world. If possible, get him into another room on these occasions. Don't let him sit up too long. Wrap his legs and knees in a blanket. A low stool will keep the feet off the drafty and cold floor.

Hot-water bottles, extra pillows, and a bed jacket will help amazingly in increasing comfort.

Don't forget about the joys of tinkling ice in a palatable drink of some sort. A jaded appetite may be stimulated in this way.

The patient's bath is one of the most important features of his treatment. Do you know how to bathe a sick person? You must close the windows and let the room get warm. Then get all the needed things together. A small table or a chair should be placed near the bed. Spread over this a clean towel. Place on it a basin, wash-bowl, or milk-pan. Also have a pitcher of hot water, a cake of soap on a dish, two towels, and a wash-rag.

Protect the bed from wetting by stretching beneath the patient a clean blanket or bath towel. This is easily done by rolling the patient to one side, placing the blanket, and rolling him back into his original position.

Remove unnecessary overbedding, leaving just enough to keep the patient comfortable. Bathe and dry one limb at a time, leaving the rest of the body covered. Wash the back last.

The bathing being completed, remove the protecting blanket and replace the nightgown. Stir up the pillow, take

the wrinkles out of the sheet by pulling, keep the room quiet, and very soon the patient will probably fall asleep.

If the doctor should order a foot-bath, this does not mean that the patient is to get out of bed to have it. The bed-clothes may be loosened from the foot of the bed, the mattress and sheet protected by a rubber sheet, or by a towel wrapped over a few layers of newspapers. Then place the foot-tub or pan in the bed and fill it a third full with water, warm or hot, as the doctor directs.

After twenty minutes or a half-hour, the pan may be removed. In the meantime, the water must be kept at uniform temperature by frequent addition of a little hot water, taking care not to burn the patient. Dry the feet and rub briskly with a rough towel.

This method keeps the bed dry and protects the patient against cold.

If the patient is able to move, he may be assisted to a near-by bath-room, provided the doctor permits. Watch the sick person, help him in and out of the tub, do not allow him to remain too long in the water, and make sure his strength is not overtaxed.

When the patient gets back to bed, place a hot-water bottle at his feet, and give him a warm drink.

There should be frequent sponging of the hands and face. This adds amazingly to the comfort of a sick person. If he has fever, cold sponging lowers the temperature and relieves the aching head.

Before each meal, wash his hands and clean the finger-nails, to make sure the food is handled with clean hands.

The teeth should be cleaned at least twice a day, and the hair combed at regular intervals.

Cleanliness of the sick person will shorten his illness and promote his comfort.

TRANSPORTING THE HELPLESS

WHEN you have occasion to get a sick or injured person to his bed you may be at a loss how to proceed. Perhaps you may find an unconscious or half-conscious person by the roadside. You may be in the woods or fields when something happens to one of your companions. How are you to get the victim home or to a proper place for treatment?

If the distance is great, there must be some sort of vehicle. The cushioned seat of an automobile, or a wagon with a layer of straw or hay in the bottom, will serve splendidly. In their absence, you must provide a stretcher or a litter.

A satisfactory litter can be made in one of several ways. A coat or two coats, for instance, can be made useful. Turn the sleeves wrong side out and button the coat. Get two poles or sticks, run them through the reversed sleeves, and you have a short litter, or stretcher. Add another coat, fastening the collar of one to the tail of the other, and you have a device which will safely carry a child or a light adult.

Grain bags can be made into splendid stretchers by making holes in the corners, and inserting poles heavy enough to support the weight of the helpless person. A blanket may be used for the same purpose. Spread it smoothly on the ground. Place poles at the edges of the blanket, on opposite sides. Roll the blanket around each pole until the poles are eighteen to twenty inches apart. Then they must be secured by tying with strips of cloth or rope, or by nailing the blanket to the poles. It will help a lot if cross pieces of wood are nailed or tied to the poles to keep them in a proper position.

A ladder, a bench, a door, a shutter, a wide board—any substantial thing which is properly padded with clothing, blankets, boughs of trees, or leaves—will offer a suitable means of moving the sick or injured person.

Now let me give you a word of advice. Do not place the victim on your improvised stretcher until you have tried it yourself, or had somebody test it. You don't want to give the unconscious person an injury which would be worse than the original trouble.

EXAMINING THE URINE

THERE are several things everybody should have done on occasions. One of these is to have the urine examined at least once a year.

I am sure you all know how important this procedure is to persons past middle life. It is just as important to young adults and to children.

In the first half of life it is not so vital to have periodical health inspections, provided the health is reasonably good. But if there is undernourishment, skin disease, bad color, offensive breath, habitual headache, or frequent nausea, the urine should be examined.

I am not giving you this thought on the theory that you may have kidney disease or some other dreadful condition. I am suggesting it because examination of the urine may lead to some good advice about the things you eat, your failure to drink sufficient water, or other neglect of your body.

Sometime when the urine is to be examined, ask your doctor if you may see it tested. After you witness the delicate chemical and physical tests and the study made of its ingredients under the microscope, you will have added respect for a profession which never rests, because of its desire to conquer disease.

The urine is tested to see whether it is acid or alkaline. It should be acid, and if it is found to be alkaline, a study of your habits will be made to find out what is wrong.

The specific gravity is taken. Pure water is taken as the standard and counted as 1000. The greater the solution of solids in the urine, the higher is the specific gravity. If this degree of solid content varies materially from the normal, it means a lot to the doctor.

For instance, if the test of the urine shows the solid content to be low, it may mean that waste materials, which should be eliminated, are being dammed up in the system.

Of course, the percentage of solids in a sample of urine varies with the intake of fluids. The more water you take, the lower will be the specific gravity.

There are certain diseased conditions, however, in which the flow of urine may be profuse and yet the specific gravity of every sample is high. For instance, in diabetes, a disease we are hearing a lot about these days, the specific gravity is very high. It may run to 1030 or even to 1045.

The color of the urine, the nature of the deposit, and even the odor are important in forming conclusions as to the health and vigor of the individual.

The microscope shows other things. The microscopic field may reveal tissue or substance, possibly telling a sad story of changes within the body.

Heating the urine or adding certain chemicals will disclose other things having some bearing on the health, or making clear to the doctor what advice should be given.

The purpose of all these tests is not to find out that you are hopelessly ill, but to find out how to restore you to perfect health, or how to keep you well. To dodge the doctor is not a smart thing to do. On the contrary it is very stupid. Let him find out exactly what is wrong with you, and ninety-nine times out of a hundred he will find a way to cure you.

PRENATAL INSTRUCTION

IT is said that in the United States sixteen thousand women died from the effects of childbirth in a recent year. That is a terrible toll of life imposed upon the noblest of human beings, the prospective mothers of the country.

The same day I came upon these figures, I read that Vassar College had established a new department, devoted to home making and child training. Speaking of this department, President Henry N. McCracken said: "In the education of men technical and vocational schools have been established in virtually every field of endeavor, while up to the present time the work of training women as home managers and for their responsibilities in raising children has not been approached in a thoroughly scientific manner."

There is an intimate relationship existing between these two statements. Lack of education for motherhood is responsible for many needless deaths. Nowhere else is human experience and knowledge so important.

I assume that Vassar's course relates more to the education of the prospective child than it does to the education of the prospective mother in her own needs, physical as well as mental. If I may be permitted to suggest to the faculty, I urge that there be included in the curriculum thorough instruction in the physical aspect of motherhood.

I shall never forget the impression made upon me several years ago when a well-known woman doctor said that prenatal instruction would result in the saving of twenty per cent of the babies who now die. If anything can be more important than this, it is that prenatal instruction could save a large per cent of the mothers who now die.

We must not stop until means of imparting this knowledge have been devised. Not until then can the public share the serenity and confidence of the mother. It should be a matter of common understanding that childbirth is not to be ap-

proached without medical examination and advice from the beginning of pregnancy.

Recognizing the delicacy and embarrassment of speaking about these holy things, it must be understood by every wife that her own precious life and the welfare of her babe depend on her physique and the strength of her organs. Heart, lungs, kidneys, and blood-vessels, as well as the bony and muscular formation of her body, determine her fitness for maternity. Proper advice at the right time will result in the correction of a defect which might prove fatal if left to itself.

In this matter, as in everything else, knowledge is power.

FEEDING AND CARE OF THE BABY

THERE is no difference of opinion in all the world as to the wisdom of breast-feeding. Fortunate, indeed, is the baby who is so blessed. It gives a child the best sort of a start towards health, growth, and vigor.

Cow's milk properly modified is an acceptable substitute for mother's milk, but yet, like all substitutes, it is open to certain objections. Chief of these is the difficulty of getting fresh and pure milk.

Certainly nothing can be more gratifying to the maternal instinct than to be given the inestimable privilege of nursing her baby. To spend herself for her child is the inborn desire of every mother. It is a sad experience when, for any reason, the child cannot be nursed. Yet, there are times when breast-feeding is out of the question. Certain conditions make it imperative to discontinue the breast. Needless to say, this should not be recommended unless there are well-defined and positive reasons for advising it.

So important is this subject that volumes have been written on the indications for discontinuing breast-feeding. The medical profession has formed definite conclusions regarding it.

In the first place, let me consider the mother herself:

Unfortunately, not every mother is well, strong, and free from disease and physical disabilities which might be transmitted to her child. She may appear perfectly well up to the birth of her baby and then suddenly show some ailment which could have disastrous effects upon the infant.

The nursing mother seems endowed with special powers of resistance against acute diseases. In spite of this, some acute infectious diseases, like pneumonia, influenza, or typhoid fever, may so reduce her as to make it impossible to nurse the baby, even if it were safe to endanger the child by continuing the breast.

Bright's disease, tuberculosis, cancer, anemia, or serious blood disease—any one of these contracted by the mother—would demand cessation of breast-feeding.

It is a question whether or not epilepsy, convulsions, or some other nervous or mental disturbance should be sufficient reason for stopping the mother's milk. This must be determined on the merits of the individual case.

Should the mother become pregnant during the suckling period, it is wise to wean the baby, because nourishment is needed by another little life.

After all, the supreme test is the child itself. The physical prosperity of the infant is the important thing. If he stops gaining weight, suffers continuously from diarrhea and vomiting, or begins to lose weight, something is wrong. These symptoms do not call for instant change in the feeding, but they demand investigation. Unless regulation of the hours of feeding and the quantity of milk given bring about restoration to health, then it is essential to consider artificial feeding, either as a substitute for the breast or to supplement it.

A last and natural reason for stopping breast-feeding is the advanced age of the infant. Ordinarily, weaning should take place not later than the twelfth month, and usually it should be earlier than this.

The welfare of the baby is of first importance. The health of the mother cannot be disregarded. Common sense must govern, and each case must be studied to find just what is best for both.

After nine months of age, the average bottle-fed baby should be fed five times a day. These feedings should be made every four hours, from 6 A. M. to 10 P. M. The baby should sleep from ten o'clock at night till six in the morning.

It is understood, of course, that plain cow's milk is unsuitable for baby-feeding. It must be "modified," as the process is called, in order to make it a proper substitute for mother's milk. In the process of modification, water, sugar of milk, lime-water, and perhaps other ingredients are added. The exact proportions must be given the mother by a doctor or at the baby health station. You must not depend upon this

formula, because it may not suit the needs of your baby, but at nine months of age and during the next three months, the average baby will consume in twenty-four hours this quantity and mixture of food: Whole milk, thirty-two ounces; barley water, ten ounces; sugar of milk, two ounces; lime-water, three ounces.

Barley water is made by boiling an ounce of barley flour for thirty minutes in a quart of water, then adding to the barley gruel enough plain boiled water to make the mixture an even quart.

You will observe that the lime-water, milk, and barley-water mixture aggregates forty-five ounces of fluid. This is divided into five feedings of nine ounces each, and is given as directed.

During these three months, if the child is normal, he may have a little extra food at ten in the morning. This will consist of a well-cooked cereal of the finer grain, or strained oatmeal. Over this may be poured a part of the prepared milk. At the two o'clock feeding, he may have two or three teaspoonfuls of beef juice to which dried bread crumbs or crumbs of "zwieback" have been added.

It is particularly important, if pasteurized milk is used, to give the infant a little orange juice every day. Two or three teaspoonfuls of strained juice will be enough to furnish the necessary vitamines.

The feedings must be given with the regularity of clockwork. No matter how tiresome it may be, there must be no lapse in this matter. Even a half-hour makes a difference.

If the baby is inclined to constipation, he may be given a teaspoonful of olive oil night and morning.

At this age the baby should have an abundance of rest and sleep. Don't worry about it if he sleeps most of the time.

The growth and vigor of the child are the measures of his physical prosperity.

Even when the proper formula has been prescribed, it will not accomplish the purpose unless it is properly prepared. It is not properly prepared unless with painstaking care and infinite pains the mother adheres to the very letter of the law.

Your father and mother, and certainly your grandparents, are likely to laugh at the "germ theory." But, even though they deny the scientific foundations of the accepted theory of disease, they will not reject the old saying that "cleanliness is next to godliness." I am sure no one doubts the importance of clean hands, clean utensils, clean milk. We do not need to argue about germs. We can agree that absolute cleanliness is necessary to keep baby well.

When you can fruit, whether or not you boil it, you put it in cans which have been scalded. If you fail in any step, you know the can-stuff spoils. Something happens which makes it deadly to eat. Bear these things in mind when you are preparing the food for your baby. His little stomach is very delicate. His hold on life is not very tight. He cannot resist disease as we can.

Everything used in preparing the milk and all the food and drink baby is to have must be boiled and handled with clean hands. They must be kept in a clean place, away from all casual contacts, and must not be touched by anybody except yourself or some one assigned and instructed for this duty.

After it has been prepared, baby's food is put into feeding-bottles, which have been thoroughly boiled. The bottles are stopped with clean absorbent cotton and put on ice till needed. Not more than enough for one day's feeding should be prepared.

When time for the feeding has arrived, a bottle is placed on the stove in a pan of warm water and heated to body temperature. This can be tested by shaking a drop of the milk on the back of your hand.

When the formula is properly warmed, a rubber nipple is placed on the bottle. The nipple has been boiled in the morning and placed in a boracic acid solution which, in its turn, has been previously boiled.

All this, dear Mother, means trouble and time, but the abounding health of your infant is reward enough, isn't it?

The second half of this stage of life, the period from eighteen months to three years of age, is much less critical

than the first half. But it is a time when any neglect will result in weakening the foundation upon which strong and healthy adult life must be erected.

After the first half of the period of infancy has passed, the child can settle down to the conventional three meals a day. I don't know why we eat three times a day. Perhaps twice a day would be just as well, or four times a day better, but we have accustomed ourselves to three meals, and I suppose till the end of time it will be "the thing" to sit down to table thrice daily.

"The test of the pudding is in the eating," and the test of proper feeding is in the growth and development of the body. If the food is properly selected, three regular meals, given with clocklike promptness, will insure health and well-being to infant or adult.

Many children are ruined in health and temper by overfeeding. Food should not be given between meals. Such indulgence ruins the appetite for the regular meal. Usually the stuff administered between times is pastry or some other equally improper thing. The result is the baby toys with the food at his stated meal. Failing to get the proper nourishment, it is not long before the child shows the natural effects, and malnutrition replaces normal health.

Cooking for babies of this age is a fine art. We have reached the period when we must think about the development of teeth and must supply the mineral substances essential to their formation. It is a great pity that quantities of invaluable body, bone, and tooth-building material are thrown away in almost every kitchen.

In cooking vegetables, the water in which they are boiled absorbs the mineral substances of the skin and coverings. Too often the water is drained off, and thus the iron and other minerals are lost. This is a mistake. The right way, in cooking for the child, is to use the smallest amount of water possible and then, when the boiling is sufficient, to lift the cover and let the water evaporate. This will leave the minerals in the food.

All cooked vegetables must be thoroughly mashed, so as

not to leave any hard lumps which the child is unprepared to masticate until he has teeth enough to chew the food. Of course, after he is two or two and a half years old he will get on very well, because he will have teeth enough then to do good work with them.

It is difficult to lay down any definite rules as regards the food to be given a child of this age. Conditions of season or climate vary. The following may be taken as something of a standard, subject to numerous variations:

Breakfast: The child may have one egg or some hashed chicken. Instead, a little bacon may be given on some days. Dry bread and as much milk as he will take—within reason, of course—complete the meal.

Dinner: He may be given chicken or fish, with a little baked potato or other vegetable; dry bread; and milk. Dessert of apple sauce, baked apple, sliced orange, custard, a pudding of some sort, and occasionally ice-cream may end the meal.

Supper: At this meal a cream soup may be given, dry bread and milk, scraped fruit, and occasionally, in season, ripe and sweet berries.

Except in case of illness, this program should not be varied materially. If there is great demand for food between times, a glass of milk or scraped fruit may be given.

Every baby should have water between feedings. It must be pure water, made so by boiling and cooling.

Without water, the intestines and kidneys are not properly flushed. As a result the baby is not sweet. There is a sour smell. The urine is highly colored and irritating, causing scalding of the buttocks and surrounding parts.

The lack of water results in constipation. There must be an abundance of fluid to dissolve the waste products and to carry them away from the body.

The omission of water from the dietary places unfair labor upon the kidneys. Their work is sadly interfered with if the urine is scanty and concentrated. Continual neglect may cause kidney trouble and other serious conditions.

Nobody need be afraid of pure water. It is necessary to infant health, it is vital to adult health. Try the magic of fre-

quent drinks of water. Many a crying baby will become quiet and happy if he is given a drink. Even colic will disappear if a little warm water is given.

One of the most common ailments of babies and young children, especially in summer, is constipation. In the nursing baby this is, as a rule, caused by the mother's own condition and her diet. The anxiety of the mother to have sufficient milk for the baby causes her to eat heartily of milk-producing foods. This change from the routine soon causes constipation in the mother and naturally affects the nursing baby. In warm weather the mother's diet should include plenty of fresh milk and eggs, fresh green vegetables, and fresh and stewed fruits. She should drink plenty of water and keep as calm and cool as possible.

All babies should be given orange juice from the first few weeks. Begin by giving one teaspoonful, strained, before the first feeding. As the baby grows older, the amount is gradually increased. At one year of age the child should have the juice of half an orange every day.

Keep the baby clothed to suit the weather. A clean shirt and dry diapers are all that are necessary on a hot day. Keep the crib or carriage covered with mosquito netting.

Bottle-fed babies are more often constipated than nursing babies. As a rule, the feeding is at fault. Have your doctor modify the formula.

When the baby is old enough to hold on a commode, much can be accomplished towards regular bowel movements. Put the child on the commode each day at a stated time, preferably just before the bath. Suppositories of glycerine will start the movement, and if used for the first few days only, they are very helpful in training the child to have regular movements.

The diet for older children should include orange, prune or tomato juice, coarse cereals, whole wheat, graham or bran bread, vegetables having bulk, such as celery, string beans, peas, and carrots, also stewed and fresh fruit.

DISINFECTION AND FUMIGATION

AMONG the important things to keep in mind when taking care of a case of contagious or infectious disease is to prevent the trouble being communicated to others.

To an uninstructed person this may seem a very difficult matter, but it is quite simple. It does, however, require the strictest attention to a few rules. The reason it is so hard for many homekeepers to observe these rules is that so few of us realize what it means to be exact.

While the rules for disinfecting a sick-room are simple, the nurse who is to enforce them must be one hundred per cent efficient. One simple lapse from the path of perfection may mean another case of illness in the family.

Suppose a child or other member of the family has measles, scarlet fever, diphtheria, or other contagious disease. Of course the sick one will be strictly isolated.

But this is not enough. All tableware and other things used by the patient, as well as clothes and toilet articles, should be kept by themselves. The dishes should be boiled in a special vessel when they are taken from the tray, and then placed upon a separate shelf ready for their next use in the sick-room.

A basin or tub filled with a solution containing one of the cresol preparations, in the proportion of one teaspoonful to a quart of water, should be kept in the room, and all underclothing and linen used by the patient should be dropped into this when they are removed. Thorough boiling of these objects will complete their disinfection, and then they may be sent to the laundry or to the washtub as usual.

In all diseases where there is peeling or scaling of the skin, such as scarlet fever or measles, this precaution is most necessary.

Discharges from the nose and throat should, of course, always be caught on gauze. This should be placed at once in a paper bag and the bag with its contents burned. The urine

and feces should be covered with chlorate of lime before being disposed of.

Infectious conditions are sometimes communicated from one person to another by the hands of the nurse. Strict attention should be given by the nurse or the person taking care of the sufferer to keeping her own hands scrupulously clean —that is, surgically clean.

For this purpose, a teaspoonful of one of the cresol preparations to a quart of water is as good a disinfectant as any. This should always be at hand. Before and after handling the patient, the nurse should wash her own hands in soap and water, scrubbing them with a brush. She should then clean her finger-nails, wash her hands again, and dip them in the disinfectant.

In taking care of tubercular patients, hang the bedding and the outer clothing in the sunshine frequently. Mattresses should also be treated in this way. To make sure that the rays of the sun do their full work, let the things remain in the bright sunshine for several days in succession.

After every case of an infectious or a contagious disease, the patient's room should be thoroughly cleaned. In cases of highly infectious diseases, the room should also be fumigated.

The first thing to do in disinfecting a room is to wash the walls and floor. The best thing to use for this purpose is one of the cresol preparations. If this is not at hand, use a good soap and hot water to which household ammonia has been added.

When fumigation is necessary, the burning of a sulphur candle is as good and safe a method as any. Before making use of it there are certain preliminaries that must be observed, as follows:

Remove from the room any articles liable to become tarnished by the sulphur. Among these are silver, gold, picture frames, jewelry, and delicately colored hangings or articles of clothing.

Close the doors and the windows tightly, and stuff paper or cloth into any openings or cracks.

Place the sulphur candle in a dish containing a little water. Light the candle and let it burn.

Leave the room closed up for twenty-four hours, if possible.

After a day and night, open the windows and doors wide and allow the room to air thoroughly before using it.

Sunshine is the best destroyer of the dreaded germs of tuberculosis. A room that has been occupied by a tubercular patient can be made quite wholesome by a good scrubbing with water containing one of the cresol preparations or other disinfectant, and sunning. However, if you feel at all nervous about the matter, it will do no harm to set your fears at rest by burning a sulphur candle.

Fumigation is no proper substitute for soap and water. If I had to choose between them, I should prefer the latter. Many health experts have abandoned fumigation entirely because too great dependence has been placed on the results. Germs are elusive things and, unless the fumigation is long continued, it is not effective in killing them.

An abudance of soap and water with good hard scrubbing of walls, floors, all parts of the bed and chairs and tables, will do more than incomplete fumigation. A combination of both methods will add to the certainty of results.

ADOLESCENCE

(KNOWN ALSO AS PUBERTY OR MATURITY)

I ONCE heard a most sensible woman say that since her two children were approaching the teens, she found no time for anything besides the "mother job."

I thought she was joking and reminded her of her many activities while they were still babies. "Yes," she answered, "but now the job is a much more absorbing matter than colic and bottles. Any intelligent mother can care for a baby, but it takes prayer and fasting to look after a growing boy and girl."

That woman was right. I wish more parents of growing children would realize how important the "parent job" really is.

Never in all their lives do boys and girls need the constant care of an understanding parent more than they do from the age of about ten to fifteen or sixteen, or even older. What happens to them, and how they take what happens to them, at this age may affect permanently their physical health. It may determine to a large extent how they are going to meet the ups and downs which are bound to come to them in later life.

What makes the "parent job" most difficult at this stage is the fact that, as a rule, adolescent boys and girls are not given to talking about their feelings and their symptoms, especially to their elders.

But the difficulty of the job is no excuse for failure in its accomplishment. It is the manifest duty of the parent to find out and to understand. Ignorance here is in itself a sin, not an excuse.

"What are the symptoms of approaching adolescence in a healthy girl?" you may ask.

Strictly speaking, there ought not to be any. Menstruation normally begins at about fourteen years of age. Some-

times it starts as early as ten or eleven, or as late as fifteen or sixteen. If it is delayed beyond sixteen, a doctor should be consulted, even though the child seems to be entirely well. The periods are irregular at first, but they should gradually become regular. Ultimately they occur in cycles of from twenty-seven to thirty-one days, and last from three to four days. They should be without pain, mental depression, or nervous instability.

The time immediately preceding the onset of menstruation—the transition period between childhood and girlhood—should be spanned without physical or nervous symptoms. This is a time calling for the most careful watching. The changes which are taking place in a child at this age make a tremendous demand upon her strength. If her strength is fully equal to this demand, she will meet it without undue strain of mind or of body. But if she is not healthy and vigorous, the tension may prove too great and morbid symptoms may develop anywhere along the line of body, mind, or nerves—probably at the point of her greatest constitutional weakness, wherever that may be. The symptoms may be so slight as not to be noticeable at this age. But many of the infirmities of mature and middle-aged women are directly traceable to the neglected symptoms of adolescence.

Doctors now recognize the importance of those mysterious things—the endocrines, or ductless glands. Most of the things said and written for the laity about glands are silly and untrue. Yet there are such things as ductless glands. We know little about these glands, at present, but we do know that they have a tremendous influence over the general nervous system, including the brain itself.

We also know that disturbances of the ductless glands are closely related to disturbances of the ovaries. We know that the ovarian glands are the storm-centers of the changes from the old physical order to the new—the changes taking place in the adolescent girl.

This knowledge makes it easy for us to see why whatever is happening to the ovarian glands has a far-reaching effect upon the nervous and mental life of the girl. And this is why

it is vitally important to keep the general strength and vigor of the growing child high enough to meet easily all calls for reënforcements that may be sent out from any of the regions reached and influenced by these mysterious ductless glands.

The first thing to do in preparing a growing girl for a healthy adolescence is to keep her general health good by a simple, nourishing diet, an abundance of sleep, regular exercise, rest, bathing, and sensible habits. It is most important to avoid constipation, because this has a very bad effect upon the pelvic circulation.

The second and more difficult part of the "mother job" at this time is to keep the child's mind in a healthy condition by sane interests, moderate occupation, freedom from the strain of overstudy, worry, or responsibility, the avoidance of shocks, excitement, morbid fears, and unwholesome thoughts. Explain her own physiology frankly to your daughter, and encourage her to discuss with you all her symptoms, "queer" feelings, and perplexities. Teach her how to take care of her body. Discourage any morbid sensitiveness or brooding over little affronts or failures, or trivial ups and downs. One of the common mistakes of adolescence is to take everything too seriously—except the things which are really serious.

This second part of the "parent job" applies equally to the care of the adolescent boy. No boy has a fair chance in life if he has to go through this critical period without a sensible parent as a confidant and guide.

Just here, I cannot resist adding a word of warning to over-ambitious parents. It is really a small matter whether or not little Johnny or Mary "makes a grade" in school each year, between the ages of ten and sixteen or seventeen. It is a vital matter that the child shall have a sound body to carry his sound mind throughout these years—and afterwards. It is far better to take the child out of school entirely for a while, at the first signs of loss of weight, anemia, sleeplessness, irritability, or unusual moodiness. It is better to do this than to run past these danger signals for the sake of a brilliant school record, with the risk of a break-down later.

Keep in touch with your doctor and discuss all the unusual symptoms with him. But in nine cases out of ten, you, Mother, will have to act as interpreter between the doctor and the little patient.

MENOPAUSE, OR CHANGE OF LIFE

SINCE it has become the fashion to talk about the "dangerous age," this much-discussed time has been held responsible for all the foibles and silliness in which grown women have taken it into their heads to indulge. It accounts, too, for some really serious illnesses which demand treatment.

The fact is we are pretty apt to err either on one side or on the other in regard to it. Most women take it either too seriously or not seriously enough. There is a sensible middle course here, as everywhere.

The only real danger, of course, lies in not taking it seriously enough. So I shall speak of that first.

The menopause, or change of life, is the cessation of menstruation. It comes usually between forty and fifty-two years of age—most commonly between forty-five and fifty. If it is delayed beyond fifty-two, medical advice should be sought. The symptoms indicating the change may extend over a period of time anywhere from part of a year to five years.

Strictly speaking, this time ought to be marked by no other symptoms than growing irregularity, lessening, and finally the absence of the monthly periods.

It is common, however, for healthy women to be troubled —particularly for some time after the periods have ceased— with disturbances of the circulation and of the nervous system. The usual symptoms are "hot flashes," palpitation, dizziness, irritability, shortness of breath, faintness, spots before the eyes, and depression. There may be excessive perspiration, nosebleeds, numbness, tender spots here and there, and neuralgia. In fact, the symptoms may be of endless variety, according to the temperaments of the women and the circumstances of their lives.

A sensible woman will recognize these symptoms and discuss them frankly with her family doctor. They nearly always pass in a few months or years, and require no other treatment than care of the general health.

On the other hand, there ought not to be any very pronounced physical symptoms at this time. There may be constipation, diarrhea, indigestion, and headache. That is, there may be such physical symptoms as are due to the circulation or the nervous system.

Whenever definite bodily illness occurs during the menopause, it should receive the same immediate attention as at any other time. Indeed, it should have more careful attention at this time than usual, because now, as during adolescence, the whole make-up of the person is undergoing a peculiar strain. On this account, the woman is more apt to fall a victim to disease—particularly constitutional weakness—than at other times. Prolonged or profuse bleeding, as well as pain or other symptoms of illness, should be reported to the doctor.

The only real danger at this time is for a woman to charge up to the change of life, symptoms which are, in reality, warnings of definite disease. This difficulty can be overcome, not by worrying about it, but by asking the advice of the family doctor.

Now, let us consider the other side of the picture.

While an endless variety of nervous symptoms and "queer" feelings are common at this time, they are by no means the rule. It used to be thought that they were. Now we know better. A great many women go through the change of life with no symptoms at all.

When such symptoms occur, they ought to be looked upon merely as passing discomforts. They are due to increasing atrophy of the ovaries, a physical condition which interferes with the secretion of the glands. At this age the blood supply to all the pelvic organs is growing less and less. The organs are decreasing in size and in function. This change may have an extremely unpleasant effect upon the circulation and the nervous system, but it is altogether normal. The human mechanism may be depended upon to right itself in due time.

The change is comparable to what took place during adolescence—only the process is reversed. There may be a great similarity in the kind of nervous symptoms, with allowance for the difference in ages and experiences. But there ought

to be a tremendous difference in the way we regard the symptoms at the two ages. In adolescence we have to deal with a formative process. Whatever happens at this age may affect the entire future of the child. At the menopause, we are dealing with a process of atrophy, or decay. The symptoms—however unpleasant they may be—are concerned with a function which has already done its work, and which is of no further importance. Dismiss them if you can. Endure them if you can't forget them. Talk them over with your doctor if it will help. But don't take them too seriously.

The best advice to give a woman who is approaching the menopause is to take good care of her general health, to keep early hours and, if possible, to take an hour's rest during the day. She should avoid overwork, excitement, and strain of body and mind. Let her consult her doctor frequently, and, above all things, cultivate a sane philosophy and a wholesome attitude towards life.

It is not to be supposed that the change of life is a purely feminine experience. As a matter of fact, the nervous and general symptoms which women have are not unusual in men at a little later period of life. The advice given applies to men with equal force.

DUCTLESS GLANDS

(ALSO KNOWN AS HORMONES, ENDOCRINES; INTERNAL SECRETIONS)

WHENEVER Nature requires some sort of fluid, for purposes of lubrication, to aid in digestion, or for any other reason, she has provided gland tissue. The glands of the body are of two sorts: First, there is the ordinary secreting gland, like the lachrymal gland which furnishes the tears so lavishly spilled by the tender-hearted, or like the liver which furnishes the bile essential to intestinal digestion.

Then, we find another kind, known as the "ductless glands." These are remarkable in that they resemble, both externally and in internal structure, the ordinary glands, but they possess no openings for the escape of their secretions. Because of the absence of such openings, they are called "ductless glands," and their products are called "internal secretions."

The internal secretions have some, as yet, mysterious and not well-understood, influence on the chemistry and development of the body and brain. If they overact, certain conditions follow; if they fail to function, the opposite effects are noticed. Dwarf or giant—the decision as to which the child shall develop into is determined by the action of the "pituitary body," one of the ductless glands, a little bit of a body resting on the floor of the skull, below the base of the brain.

The thyroid gland, situated in the neck, which becomes so conspicuous and deforming in goiter, is another of the ductless glands. This, too, is an organ essential to bodily development.

The adrenals, the pineal and thymus glands, the interstitial glands or gonads, the parathyroids, and the pancreas are other ductless glands which affect the growth or functioning of the body. All of them are being carefully studied by specialists known as "endocrinologists," and it will probably

not be long before we shall understand as much about their influence upon health and disease as we now understand about the influence of the thyroid gland.

Much is being written these days about glands, their effect on personality and on health and vigor. Most of the things said are extravagant.

From earliest times men have sought to evade death. Ponce de León came to America seeking the fountain of youth. Marie Corelli made one of her characters discover it.

But in spite of all endeavor, in certain age-groups death is just as triumphant as ever. There is no royal road to longevity. The physician has done and is doing much, but do not imagine for a moment that a surgical operation will give you back your lost or wasted youth.

I wish I could endorse all I have seen and heard about gland transplantation, but I can't do it. It just isn't true, and that's all there is to it.

We have heard about transplanting glands. They can be transplanted, but they won't work after they are transplanted.

To have a successful removal of an organ from one man or one animal to another man or animal involves a lot of things. You see, something more is needed than merely to have the organ live. It must be made to function, or all the pain, trouble, and expense have been in vain.

To have an organ function, it must have the usual blood supply. The blood-vessels must be intact, so that the essential portions may receive an unfailing supply of the vital fluid.

To have an organ function, it must have its normal nerve supply. Nervous impulses are needed to excite and control the operation of the organ.

To remove an organ like a gland its blood-vessels and nerves must be severed. There are no corresponding vessels and nerves to which the severed structure of the transplanted organ can be attached. Consequently the essential blood and nerve force are not provided and the organ cannot function.

Of course the transplanted organ may contain certain

elements already created. These may be absorbed by the host and accomplish a temporary effect, but very shortly, certainly—if not at once—the "revigorated" individual will be his same old self.

While we live in a wonderful age, our age of modern invention and discovery, progress has been largely in things entirely aside from the processes of life and longevity. You must take with a grain of salt extravagant promises to extend the span of life. Such systems are like "get rich quick" schemes in finance. They must be viewed with suspicion and actual distrust.

Every child has the right to be taught how to live. Facilities for his physical care are within reach. If his teeth, eyes, tonsils, intestinal tract, lungs, kidneys, liver, and heart are given a fair chance, he will need in his advanced age no borrowed glands or other imported organs to keep him alive and vigorous beyond the present expectancy of life.

(See also *Goiter; Thyroid Gland and Myxedema.*)

CARE OF THE FACE

IT is surprising how many skins are imperfect. Some are disfigured with pimples. Some are peppered with blackheads. Some are scaly and rough. The openings of the large pores of the nose are sometimes filled with dirt. The wrinkles of the neck are discolored, if not actually grimy.

The skin of the body and the arms and the hands may be free from blemish, but the face of the same person is far from perfect. Why is this?

Doubtless there are many reasons. One is that the face is exposed to the elements, to dust, and dirt. But so are the hands.

Another reason for bad skin is bad eating. Eating too much pastry and greasy things; neglecting the stomach and intestines; drinking too little water—all these contribute to a defective skin. But why should the face suffer any more than the rest of the body?

There must be some particular reason why the skin of the face suffers as it does, and I think I know it.

It is because the face is dirty or because your efforts to clean it are improper.

Almost everybody washes the hands several times a day. The finger-nails or knuckles may be unclean or grimy, but particular deposits of dirt and corruption have little chance for permanent residence. I venture to say that the average person washes his face just once a day, on getting up in the morning. There are a good many people, of course, who bathe the face on return from working or before retiring. But it cannot be denied that the part of the body most exposed to dirt and dust gets little attention.

We come now to another cause for bad skin. Too many of us use the wrong kind of soap. If it is highly alkaline—"strong soap"—the oil of the skin is dissolved, and the surface is left unprotected for the attack of germs and poisonous contacts. Non-irritating soaps are the best to use for this purpose.

This is not a highly scientific description, but it expresses what I desire to impress upon you. Oil or grease is required by the skin to catch and entangle germs or filth, which otherwise might gain admission to the body, producing local disturbances, if not general ill health.

Of course, I do not wish to convey the impression that germs are like spiders or foxes—animals which can be caught in a trap. There can be no doubt, however, that the oil of the skin has a double function—to keep the covering flexible and to render it impervious to harmful external agents.

It is easy to see why cleanliness is so important. You are certainly not safe from local infection and are probably not safe from the possibility of general infection, unless the surface of the skin is kept reasonably free from contaminating material. You have no right to call yourself clean if your very face gives evidence to the contrary.

Perhaps it makes little difference what kind of soap is employed to cleanse the face, provided you follow its use by the application of some form of grease or cream. This will serve two purposes. It will replace the oil you have extracted by the generous use of strong soap; and, if massaged thoroughly into the skin and then rubbed off with a soft towel, it will serve to remove a lot of dirt which soap and water will not touch.

Really, it is shameful how soiled some skins are, even after almost lavish use of soap and water. After a thorough washing of your face, wet a corner of a towel with alcohol and rub the skin with the cloth. You will be shocked to see the resulting smudge of dirt on the towel.

The ordinary use of soap and water is not enough to keep the face clean. In addition, there must be other agents.

Alcohol, cologne, bay rum, witch-hazel, and the mixtures of spirits are commonly applied after shaving or bathing. There can be no doubt of their cleansing value. They are decidedly useful if followed by an application of grease or cream. But without such follow-up treatment, it is my opinion that they will add to the possibilities of local disturbance, because they dissolve still more of the natural oil of the skin.

If a man is in the habit of shaving every morning, my ad-

vice is to wash the face with soap and water first, to shave, and then to wash off the excess of lather, thoroughly drying the face and hands.

Having done this, apply the chosen cream or grease and massage the face, nose, and neck. Use both hands, carefully manipulating the skin. With your palms, stretch the tissues of the neck upward. Do not neglect the parts under the chin, the place where the double chin forms.

A woman should wash her face and proceed with massage in the same way.

After a minute or two of this treatment, wipe off the grease with a soft cloth. Use no more water at this time.

It makes little difference what kind of oil or grease is used so long as the article is fresh and pure. I suppose the cream from milk would be as good as anything.

However, in this day of commercial alertness, we can buy about anything needed for human happiness, put up in can, jar, or tube. "Creams" or "cold creams" for use on the skin are no exception. Many of the good drug supply houses have placed on the market excellent toilet articles. Jars or flexible tubes of facial cream can be had at every pharmacy and department store.

I am not interested in this subject because of the effect of the cosmetics on facial blemishes, but because of the relation of the latter to health and happiness. Many a young woman has felt her life to be blighted because of a bad complexion. Her chagrin and worry have resulted in ill health.

Success in life depends in some degree upon personal appearance. Perhaps privation and impaired health have been caused by failure to get decent employment on account of a blemished face.

Any sore of the skin is a breeding place for disease-producing germs. Serious diseases of remote parts or organs have been traced to local sores. Perfect health demands that every structure be free from disturbance. Therefore, the face should be given greater care than it is given by most persons.

(See also *Blackheads; Constipation; Indigestion.*)

CARE OF WOMEN'S HAIR

IT is far more difficult for a woman to care for her hair than it is for a man. The long, twisted locks are matted together in a mass which may readily become very unclean. Unless there is the greatest care, there will be disease of the scalp with increasing loss of hair.

Unfortunately, there is a popular idea abroad that frequent washing of the hair is harmful. It is thought by many that loss of hair, premature grayness, and all sorts of hair ailments are due to excessive washing. I don't believe a word of it.

You cannot have good hair and a lot of it unless you keep it clean. Of course there are exceptions. Some dirty, filthy, smelly, oily, sticky, stringy masses appear to flourish in spite of the condition of the scalp.

The hair differs. Some scalps have an abundance of oil, perhaps an excess of it. Others have abnormal dryness. The oily hair catches dust and dirt. This variety is especially in need of frequent washing. The dry hair should be washed, too, but it will be benefited by the application of a trifling amount of oil.

If you are troubled with dandruff or greasy hair, the following preparation will be found helpful: Tincture of cantharides, forty drops; spirit of rosemary, three ounces; spirit of lavender, three ounces.

If the hair is excessively dry, the following preparation, rubbed into the scalp after washing the hair, will help: Chloral hydrate, one and one-half drachms; castor oil, one and one-half drachms; water, four ounces.

Of course women are affected by the same factors that cause baldness in men. The scalp is supplied by blood carried to it by the vessels which run to the crown from below. If the heart is weak, the blood is not sent in powerful stream to the very top of the head. In that case there is apt to be baldness.

Women escape the contributing cause of baldness so common in men—tightness and heaviness of the hat, which certainly interferes with free circulation of blood to all the hair bulbs of the scalp. The millinery of women is more favorable to keeping the hair than is the head-dress of men.

There is certain treatment which may be applied to the scalp to improve the circulation and to stimulate the growth of hair.

A very good tonic for falling or thin hair is: Fluid extract of pilocarpin, one-half drachm; quinine, one and one-half drachms; sulphur precipitate, two drachms, balsam of Peru, six drachms; lard, three ounces.

Apply this preparation to the scalp every other day, using the finger-tips. Then massage briskly for five or ten minutes. Brushing the hair with a stiff brush does a great deal to stimulate the circulation and improve the growth.

(See also *Baldness in Men.*)

RIGHT LIVING

(SUNSHINE, FRESH AIR, EXERCISE, TEMPERANCE IN ALL THINGS)

AS I write this the sun shines. All nature smiles. It is a glorious day.

It is remarkable how much we are influenced by our surroundings. When the sun shines there is sunshine in our hearts. A balmy day in June or a crisp, bright day in winter will add to our happiness and good nature.

There are cults and schools of thought teaching that everything depends on the mind and its operation. There is much that verifies this belief. Of course, I cannot go as far as lots of my friends do, but it must be conceded we are much influenced physically by the mental state.

When we are happy the heart beats briskly. The blood is sent in forceful streams to every part of the brain and body. The skin is aglow, the nerves tingle, and there is a delightful sense of well-being.

There is no doubt that a sluggish liver has much to do with mental disturbances, but it is a poor rule that does not work both ways. Certainly this one does, and if you would be mentally alert and physically sound, you must be philosophical about the happenings in your world.

To-day is Monday. I am on a train in the Southwest. Just beyond the track is a little cottage, surrounded by a neat picket fence. A long clothes-line carries the wash, and hanging over the fence are at least two dozen heavy shirts and boys' cotton trousers.

But even though it is wash-day, the busy housewife has done another important thing. She has brought out all the blankets and quilts. There they hang in the bright sunshine, for an "airing" and a "sunning."

It is remarkable how scientific some familiar household practices really are. There is no more sanitary and health-

giving measure than making use of the sunlight for purifying and sweetening the household equipment. Not only the bedding, but also the milk-pail, the pans, the rugs, and draperies are disinfected by the rays of the sun.

Even the germs of dread tuberculosis will die in a few hours when exposed to direct sunlight. There is positive and scientifically proven germ-killing action in the sun's rays.

So you see our grandmothers, usually right in everything, were surely right in their belief that sunning was necessary to have a sanitary and healthful home.

Germs love dark, moist, and warm places. What we call mold is really a mass of germs. Wherever mold will grow, other germs will multiply. Whenever you find something moldy, you find a place which should be purified.

Molds won't develop in the sunlight or where the sun, by its heat, can give dryness, as well as its disinfecting qualities.

Perhaps you are going to build a home next spring or move into a different house or apartment. Have you thought about the importance of sunlight?

Have a dwelling-place into which sunlight streams part of the day.

Find in your home a sheltered place which the sunshine floods. Spread a blanket on the floor and let the baby, free from clothing, play and kick in the health-giving sunlight.

Another absolute necessity for everybody who would be healthy, whether or old or young, is fresh air. It is not enough for you to take a walk out-of-doors each day. Your living-room and your office or working-room—and above all, your bedroom—must be well ventilated.

When the lungs get a lot of vitiated air the blood cells go back from the lungs only half loaded with stimulating, life-giving oxygen. Without air and oxygen, a fire will not burn brightly, but will smolder and smoke. For the same reason, the life processes are lowered in power unless there is an abundance of oxygen-laden air.

The stupid feeling you have when poisoned by bad air is not the same as the sleep you enjoy in a well-ventilated room. The former is like taking an anesthetic, and will leave you,

not only unrefreshed, but with a headache and the uncomfortable after-effects of anesthesia.

Look your house and office over and see if you are working with one hundred per cent efficiency. You cannot be fully awake when the air you breathe is not pure. Your employees are not doing the best they can for you unless they are getting an unfailing supply of oxygen.

Sleep in a well-ventilated room and keep awake by living in well-ventilated rooms. Do not permit yourself to be stupefied and poisoned by breathing impure air.

The next rule for healthy living is daily exercise.

Why is it necessary to exercise? The purpose of exercise is to stimulate the body. When one group of muscles is being used Nature requires more blood to supply that particular part of the body, and the forcefully acting heart speeds the blood through those vessels, cleansing them of all impurities. At the same time, the blood coursing through the brain washes it clean, just as soap and water will wash the surface of the body. After a period of fifteen or twenty minutes given to any chosen method of exercising, the body is in a glow from the increased circulation, the brain is clear, and the thought structures are purified and cleansed, ready to do more effective brain-work.

It does you no good to exercise in a stale atmosphere, in air impregnated with the poisons of overbreathing and contaminated with dust or tobacco-smoke. The exercises must be taken in the open air or in a room freely ventilated, so that the purifying oxygen of the air will be breathed deeply into the lungs. Here it is picked up by the blood-vessels and carried to every part of the body to do its work of purification.

It isn't necessary to belong to a club with expensive dues or to go to a gymnasium where there are many attractive pieces of apparatus. It may add to the pleasure of taking the exercises to do them in unison with others, because the element of competition and natural rivalry enters into it under these circumstances, but if you cannot pay for expensive equipment, or if you are far from a gymnasium, you can

take effective exercise just the same. You have your body, your arms, your legs. All that is required is intelligent use of these parts in order to make yourself strong and vigorous by conscientiously practicing a regular daily routine of exercise. Excellent phonographic records are provided to assist in these exercises.

Many people suffer needless ailments because they do not adapt their eating habits to their living and working habits.

It seems to be expected of the lower animals that they shall sleep after meals. They gorge their stomachs with food and then lie down to sleep off the effects of active digestion.

If you are engaged in active business where alert brain action is required, it is a mistake to eat too much in the middle of the day. If you have a hearty breakfast and can look forward to a big meal at night, you can well go without lunch, or eat a very light one.

If you are doing hard, manual labor, you must have more food and can take a substantial midday meal, because the nature of your work will keep you awake.

Everybody should eat according to his daily tasks. It is wrong for the mental worker to eat heartily of the substantial food the laborer requires. It will not be disposed of in a proper way, and it becomes a burden to the digestive organs and the kidneys.

Common-sense will convince you of the physical wastefulness of overeating, and that is exactly what you do when you take more food than the degree of your activity demands.

Simply because you eat no more than your hard-working brother means nothing. He may not eat enough for his needs, while you may be taking far more than you should have.

My last word to you in the matter of right living is the word "temperance."

It is safe to say that the majority of your illnesses have been caused or contributed to by your own indiscretions. When it is generally known that some fault of the individual is responsible for his sickness, there will be less conversation about disease. The day will come when folks will be ashamed to admit they are not well.

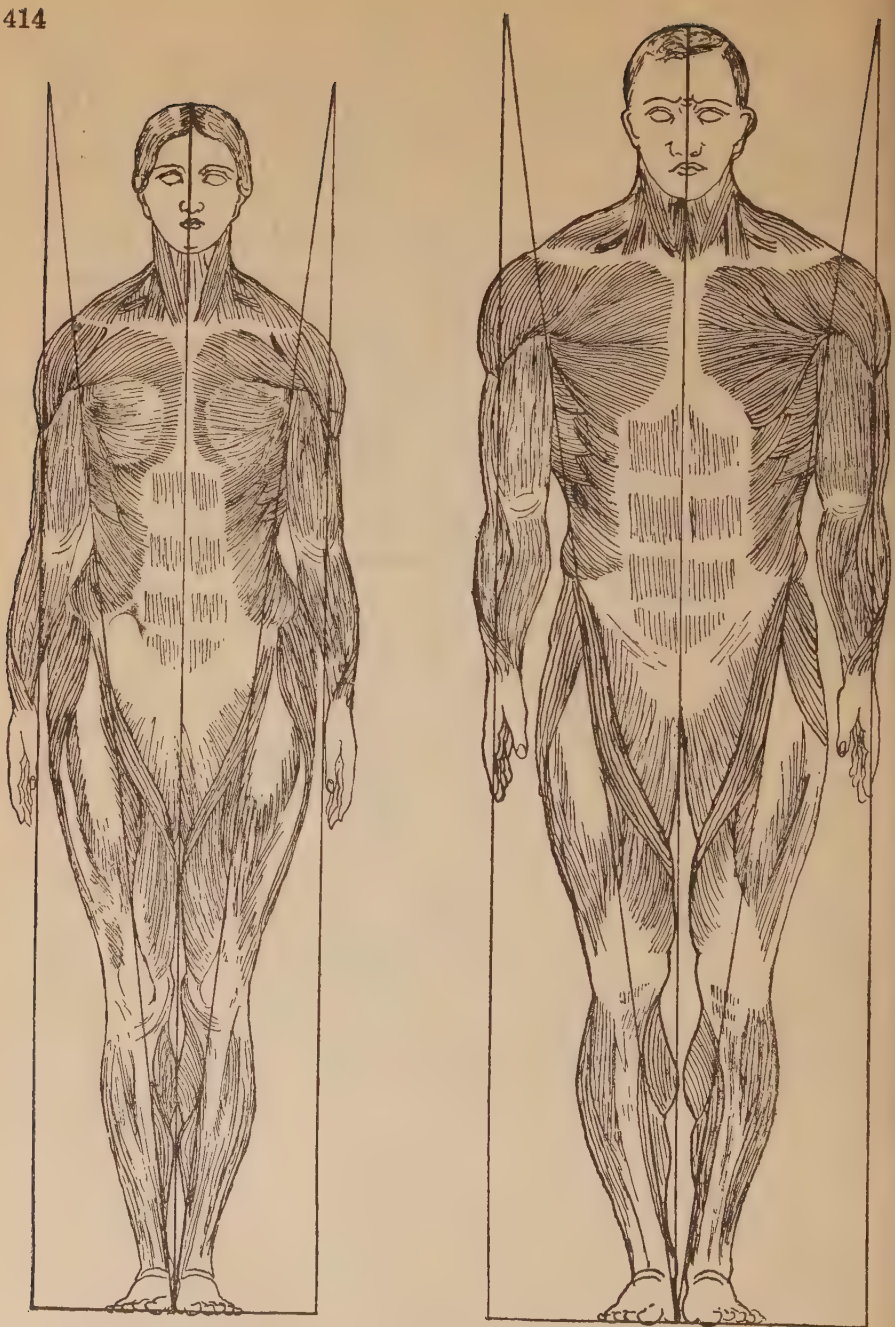
The Christian Scientists talk a lot about "error." While I may not use the word in quite the sense they do, yet I believe it to be true that most of our illnesses come from wrong habits or wrong acts of some sort. In short, they have their origin in error.

Recently, a delegation of my friends came in to see me. One had a severe pain in his side, three complained of headache, two had "indigestion," and only three of the group professed to feel fit and fine. All of these persons are most exemplary in their lives, so there was no special cause for their almost unanimous indisposition. Without exception, their ailments came from indiscretion in eating.

St. Paul admonished the Corinthians, saying: "And every man that striveth for the mastery is temperate in all things." There can be no successful leadership without good health. There can be no happiness in labor without physical vigor. Mental alertness and the maximum of intellectual effort are never associated with bodily suffering.

Perfect health is impossible to the intemperate man. Intemperance in eating, intemperance in late hours, intemperance in physical exertion—too much of anything—reacts upon the body to lessen its energy, normal function, and useful service.

Teeth, stomach, intestines, liver, kidneys—all the organs suffer the effects of intemperance. Muscles, heart, nerves, and brain suffer from your indiscretion. The body is the temple of the Holy Ghost, and every form of intemperance profanes and defiles this temple. We are under moral obligation to protect our bodies against disease.



Geometric Beauty of the Human Figures

PART FOUR

EUGENICS AND HEREDITY

Marriage and Well-Born Babies

Nothing can be more important to a nation than the guarantee of a strong, vigorous, mentally capable body of citizens. Anything menacing the physical and mental welfare of the population becomes at once a matter deserving the serious thought and attention of the community. Just as a chain is no stronger than its weakest link, the people of a nation can be no better than the individuals making up the population.

The beginning of the Great War and our participation in it necessitated the raising of an army. The first step in that undertaking was the physical examination of all male citizens between the ages of 18 and 35. Up to that time no such stupendous activity had ever been undertaken. When these statistics were gathered together we acquired a knowledge of health and physical conditions such as could never have been obtained under other circumstances.

The ascertained facts were startling. It was shocking to find that nearly one-quarter of the men examined for military service were unfit for duty. To be specific, of 5,758,000 between the ages of 21 and 45, it was found that 1,289,000, or twenty-two per cent, were physically or mentally unsound.

These examinations were limited to men. It must be assumed that if the women of the same age group had been examined, there would have been found the same high percentage of physical and mental defects. It is disturbing for us to discover that at the time of life when our citizens should be most vigorous and capable, nearly one-quarter of them are materially defective.

Perhaps the most startling thing discovered was the number, close to a hundred thousand, of mentally defective men. Figures based on the United States Census of 1920, showed that there are 22,401,000 men and 21,895,000 women in the country between the ages of 20 and 45. Let us apply to the whole group the per-

centage of mental defectives found by the examining boards in the draft. The result indicates a total of 656,000 men and women between the ages of 20 and 45 as mentally defective and consequently unfit for parenthood.

Digging further into the report mentioned, it reveals that over 80,000 men were rejected because of tuberculosis. These figures are important because the statistics of insane hospitals indicate that persons who have active tuberculosis are likely to produce mentally defective offspring.

According to an expert of the United States Public Health Service, it has been found that nearly one-half of five thousand persons, prisoners in American institutions, sprung from parents who were insane, feebleminded, epileptic, or who suffered from some disease of the nervous system. There can be no doubt that persons who are weakened in their mental and physical fibre by reason of defective nervous systems, do not readily adjust themselves to the accepted social conditions. In the language of the report to which I have referred, their "constitutional inferiority unfits them even to acquire the education which would enable them to live normally. Legitimate industry rejects them because they cannot measure up to its demands." We can expect nothing else than what actually does happen, that such persons turn to wickedness and crime.

No reference has been made to venereal diseases and their effects upon the race. It is the testimony of all physicians that these diseases are destructive of the mind and body. Their effects are transmitted to the children, unto the third and fourth generation. If we are to have a race of strong, capable, intelligent persons, we must do away with venereal diseases, or at least prevent their transmission to generations yet unborn.

In order to understand the tremendous importance of the subject under discussion, it is necessary to quote a few statistics, showing the effects upon the race of these diseases: In the institutions of this country are found 23,000 juvenile delinquents, 100,000 blind, 100,000 criminals, 100,000 deaf and dumb, 100,000 paupers in almshouses, 300,000 insane and feebleminded.

If we may depend upon the authority of the United States Public Health Service, two-thirds of these defectives are parents

of defective children. It is shocking to learn these facts. If they are actually the facts they demand study and effective action.

It would be aside from the purposes of this book to go into details regarding the social aspects of this great question. But, since heredity has an undoubted relationship to health, it is proper to set the reader to thinking about what he should do as an individual to guard his own life and the welfare of his progeny.

To be well born is one of Nature's most cherished gifts. Every baby should have that gift. Society is becoming more and more impressed with this fact and is striving to make it possible.

Of late we have heard a good deal about eugenics, the science dealing with all the factors responsible for a better race. We may laugh at eugenics, but after all, as Professor Fisher of Yale says, it is "the hygiene of future generations."

If we regard life and health from the selfish standpoint, and think only of hygiene as a personal matter, we may forget eugenics. But when we think about the coming race and our immediate descendants, we must think of them in terms of eugenics. We have an emotional interest certainly in the hygiene and physical welfare of future generations. If we are honest with ourselves and truly good, we are going to strive in this generation to live such lives and to do our best to so order society that future generations will have no cause of complaint for the failure of their ancestors.

It is unpopular in certain quarters to attempt any discussion of heredity. It may well be that environment has more to do with the welfare of an individual than heredity has. It cannot be disputed, however, as has been pointed out, that there are certain traits of character and certain physical defects which are directly transmitted, or which may have a harmful effect upon posterity. Even though there were doubt of this, we could not afford to disregard the possibilities of danger.

Some time when you have leisure, spend a few hours in studying the laws of inheritance promulgated by Mendel, the Austrian monk. What is called the "'Mendelian principle" is a matter of interest to every farmer, plant lover, animal breeder, and prospective parent. Whether it is accepted as scientifically dependable or not, it is worthy our thoughtful consideration. If

we are in the grasp of inexorable physical law, as this theory indicates, it behooves us to live such lives and to make such social adjustments as will guarantee to posterity the bodies and minds we want them to have.

Hundreds of people are asking questions regarding marriage. They want to know whether cousins should marry, whether a tuberculous person should marry, whether a syphilitic should marry. They want to know whether harm will result to the partner of such a marriage, or to the children of the marriage.

Enough has been said in this chapter to emphasize the necessity for the greatest care in mating. Marriage ought not to be entered into lightly. It must be a matter of serious thought and study. Even though there is a degree of emotional happiness in the early stages of a given marriage, it may result in such tragic physical consequences as to transform it into a living death. Marriage is an arrangement so intimate, so personal, and fraught with such possibilities to the race, that every young person should give it the most serious consideration before taking the final step.

THE EAR AND HEARING

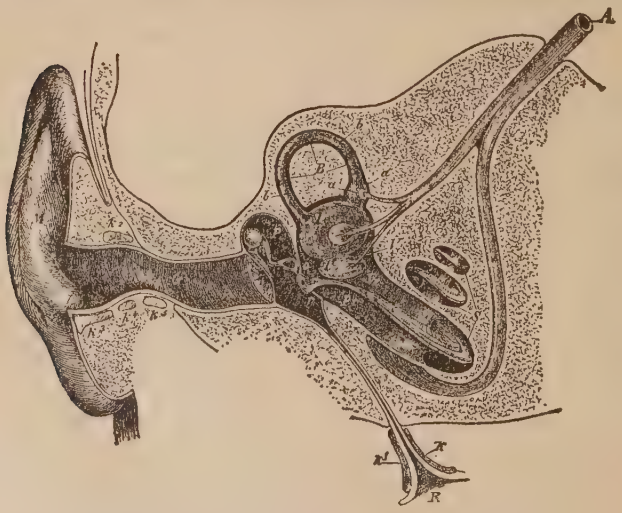


Diagram showing a section through the right ear (Czermak). *M*, *G*, external auditory meatus; *T*, tympanic membrane; *P*, tympanic cavity; *o*, oval foramen; *r*, round foramen; *R*, pharyngeal opening of Eustachian tube; *V*, vestibule; *B*, a semicircular canal; *S*, the cochlea; *A*, auditory nerve.

Table of Heights and Weights based upon the report of the Medico-Actuarial Investigation, 1912, covering an analysis of 221,819 men and 136,504 women:

Men

Age	5 ft. 0 in.	5 ft. 1 in.	5 ft. 2 in.	5 ft. 3 in.	5 ft. 4 in	5 ft. 5 in.	5 ft. 6 in.	5 ft. 7 in.	5 ft. 8 in.
15	107	109	112	115	118	122	126	130	134
20	117	119	122	125	128	132	136	140	144
25	122	124	126	129	133	137	141	145	149
30	126	128	130	133	136	140	144	148	152
35	128	130	132	135	138	142	146	150	155
40	131	133	135	138	141	145	149	153	158
45	133	135	137	140	143	147	151	155	160
50	134	136	138	141	144	148	152	156	161
55	135	137	139	142	145	149	153	158	163

Women

Age	4 ft. 8 in.	4 ft. 9 in.	4 ft. 10 in.	4 ft. 11 in.	5 ft. 0 in.	5 ft. 1 in.	5 ft. 2 in.	5 ft. 3 in.	5 ft. 4 in.
15	101	103	105	106	107	109	112	115	118
20	106	108	110	112	114	116	119	122	125
25	109	111	113	115	117	119	121	124	128
30	112	114	116	118	120	122	124	127	131
35	115	117	119	121	123	125	127	130	134
40	119	121	123	125	127	129	132	135	138
45	122	124	126	128	130	132	135	138	141
50	125	127	129	131	133	135	138	141	144
55	125	127	129	131	133	135	138	141	144

Table of Heights and Weights based upon the report of the Medico-Actuarial Investigation, 1912, covering an analysis of 221,819 men and 136,504 women:

Men

Age	5 ft. 9 in.	5 ft. 10 in.	5 ft. 11 in.	6 ft. 0 in.	6 ft. 1 in.	6 ft. 2 in.	6 ft. 3 in.	6 ft. 4 in.	6 ft. 5 in.
15	138	142	147	152	157	162	167	172	177
20	148	152	156	161	166	171	176	181	186
25	153	157	162	167	173	179	184	189	194
30	156	161	166	172	178	184	190	196	201
35	160	165	170	176	182	189	195	201	207
40	163	168	174	180	186	193	200	206	212
45	165	170	176	182	188	195	202	209	215
50	166	171	177	183	190	197	204	211	217
55	168	173	178	184	191	198	205	212	219

Women

Age	5 ft. 5 in.	5 ft. 6 in.	5 ft. 7 in.	5 ft. 8 in.	5 ft. 9 in.	5 ft. 10 in.	5 ft. 11 in.	6 ft. 0 in.
15	122	126	130	134	138	142	147	152
20	128	132	136	140	143	147	151	156
25	131	135	139	143	147	151	154	158
30	134	138	142	146	150	154	157	161
35	138	142	146	150	154	157	160	163
40	142	146	150	154	158	161	164	167
45	145	149	153	157	161	164	168	171
50	148	152	156	161	165	169	173	176
55	148	153	158	163	167	171	174	177

The purpose of this table is to give an idea of the chemical and food values of the familiar articles of diet.

The chemical percentages are approximately correct, though given in round numbers.

The fuel value represents the approximate number of calories contained in one "serving"—the amount usually given each person at a meal.

FOOD	Carbohydrates Per Cent	Fats Per Cent	Protein Per Cent	Water and Waste Per Cent	Fuel Value in Calories
Bread:					
Bran	46	5	8	41	100
Corn	46	5	8	41	100
Gluten	50	2	9	39	100
Graham	52	2	9	37	100
Rye	54	1	9	36	
White	53	2	9	36	90
Whole Wheat	50	9	10	31	105
Zwiebach	73	10	10	7	65
Candy	96			4	125
Cereals:					
Cream of Wheat	75	2	11	12	55
Cornflakes	76	2	9	13	50
Corn Meal Mush	75	2	9	14	100
Farina	76	2	11	11	55
Grape Nuts	60	2	14	24	245
Hominy	79	1	8	12	84
Oatmeal	68	7	16	9	63
Rice—Boiled	25		3	72	110
Rice—Puffed	78	5	11	6	55
Wheat—Puffed	72	2	14	12	50
Wheat—Shredded	76	1	14	9	100
Wheatena	75	2	11	12	55
Crackers:					
Graham	74	9	10	7	50
Oatmeal	69	11	12	8	50
Saltines	69	13	11	7	50
Soda	73	9	10	8	50
Dairy Products:					
Butter		85	1	14	120
Cheese—American	3	36	29	32	90
Cheese—Cottage	4	1	21	74	25
Cheese—Cream	1	34	26	39	85
Cheese—Roquefort	2	30	23	45	75
Cream	5	19	3	73	100
Milk—Butter	5	1	3	91	80
Milk—Skimmed	5	3	3	89	85
Milk—Whole	5	4	3	88	160
Eggs:					
Whites		2	12	86	20
Yolks		34	16	50	70
Fish:					
Bass—Black		2	26	72	100
Bass—Sea		5	20	75	100
Bluefish		1	20	79	150
Caviar	8	20	30	42	200
Cod		4	17	79	100
Flounder		6	14	80	100

FOOD	Carbohydrates Per Cent	Fats Per Cent	Protein Per Cent	Water and Waste Per Cent	Fuel Value in Calories
Haddock		3	17	80	110
Halibut		5	19	76	120
Herring		7	20	73	100
Mackerel		7	19	74	100
Perch		4	19	77	100
Salmon—Canned		12	22	66	200
Salmon—Fresh		13	22	65	200
Sardines—Canned		20	23	57	30
Shad		10	19	71	175
Smelts		2	18	80	75
Trout—Brook		2	20	78	60
Weak Fish		3	18	79	110
Whitefish		7	23	70	100
Fruits:					
Apples	14		1	85	75
Apricots	13		1	86	100
Bananas	22	1	2	75	150
Blackberries	11	1	1	87	60
Cherries	16	1	1	82	50
Cranberries	10		1	89	50
Currants	13		1	86	60
Dates	78	3	2	17	100
Figs	74		4	22	100
Grapefruit	12		1	87	100
Grapes	14	1	1	84	110
Huckleberries	17	1	1	81	75
Lemons	10			90	40
Muskmelons	10		1	89	90
Oranges	12		1	87	100
Peaches	9		1	90	45
Pears	14		1	85	90
Pineapple	10		1	89	45
Plums	20		1	79	30
Prunes	19		1	80	75
Raisins	76	3	3	18	80
Raspberries	13		1	86	45
Strawberries	7		1	92	40
Watermelon	7			93	40
Honey	81		4	15	100
Ice Cream:					
Chocolate	79	15	3	3	200
Vanilla	79	10	3	8	180
Ices:					
Lemon	50		1	49	125
Orange	50		1	49	125
Raspberry	56		1	43	130
Strawberry	51		1	48	125
Meats—					
Beef:					
Dried		5	45	50	160
Roast		24	18	58	300
Round—Lean		7	28	65	150
Steak—Lean		12	21	67	200
Tongue		9	19	72	75
Kidney		5	17	78	75

FOOD	Carbohydrates Per Cent	Fats Per Cent	Protein Per Cent	Water and Waste Per Cent	Fuel Value in Calories
Meats—Cont'd.					
Lamb:					
Leg—Roasted		13	20	67	200
Liver	2	4	24	70	125
Mutton:					
Leg—Roasted		23	25	52	230
Chop		35	15	50	135
Pork:					
Bacon		64	11	25	300
Bologna		15	18	67	250
Ham		28	15	57	150
Roast		25	16	59	210
Salt		83	2	15	350
Sausage		48	25	27	250
Tripe		1	12	87	40
Molasses	70		2	28	80
Nuts:					
Almonds	17	55	21	7	100
Brazil	7	67	17	9	425
Chestnuts	42	6	6	46	100
Cocoanuts	31	57	6	6	200
Peanuts	24	39	26	11	125
Pecans	13	71	11	5	230
Walnuts	13	64	19	4	300
Olives	9	20	1	70	100
Pickles.					
Mixed	4		1	95	5
Spiced	21		1	78	10
Poultry:					
Capon		22	21	57	220
Chicken		8	28	64	160
Duck		19	18	63	250
Goose		31	16	53	300
Guinea Hen		6	24	70	125
Squab		24	19	57	210
Turkey—Dark Meat		5	40	55	240
Turkey—Light Meat		5	34	61	180
Shell-fish:					
Clams	5	1	11	83	40
Crabs	1	1	8	90	40
Lobsters	4	2	17	77	90
Oysters	4	1	7	88	45
Scallops	3	1	15	81	150
Shrimps—Canned		1	26	73	75
Soups:					
Bean	9	1	3	87	80
Beef	1	1	4	94	30
Bouillon			2	98	15
Chicken	2	1	10	87	70
Chicken Gumbo	5	1	4	90	50
Clam	7	1	2	90	50
Consomme			3	97	15
Mock Turtle	3	1	5	91	50
Oxtail	4	1	1	94	55
Tomato	6	1	2	91	50
Tapioca	88			12	125

FOOD	Carbo-hydrates Per Cent	Fats Per Cent	Protein Per Cent	Water and Waste Per Cent	Fuel Value in Calories
Vegetables:					
Artichokes	17		3	80	100
Asparagus	2	3	2	93	25
Beans—Green	2	1	1	96	15
Beans—Lima	22	1	7	70	75
Beets	8		2	90	30
Brussels Sprouts	3		2	95	5
Cabbage	6		2	92	5
Carrots	9		1	90	20
Cauliflower	5		2	93	10
Celery	3		1	96	10
Corn—Green	19	1	3	77	100
Cucumber	3		1	96	10
Egg Plant	5		1	94	10
Lettuce	3		1	96	10
Mushrooms	7		4	89	150
Onions	10		2	88	40
Parsnips	14		2	84	10
Peas—Green	17		7	76	110
Potatoes—Boiled	21		3	76	150
Potatoes—Sweet	28	1	1	70	200
Radishes	6		1	93	10
Rhubarb	4	1	1	94	90
Spinach	3	4	2	91	60
Squash	9		1	90	70
Tomatoes	4		1	95	50
Turnips	8		1	91	10

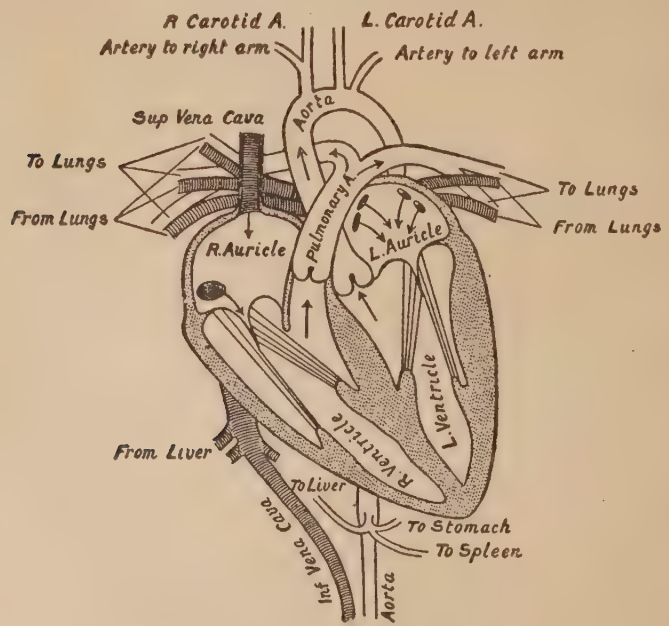


Diagram Showing the Heart cut in the Plane of its Long Axis, and the Vessels which open into and out of it.

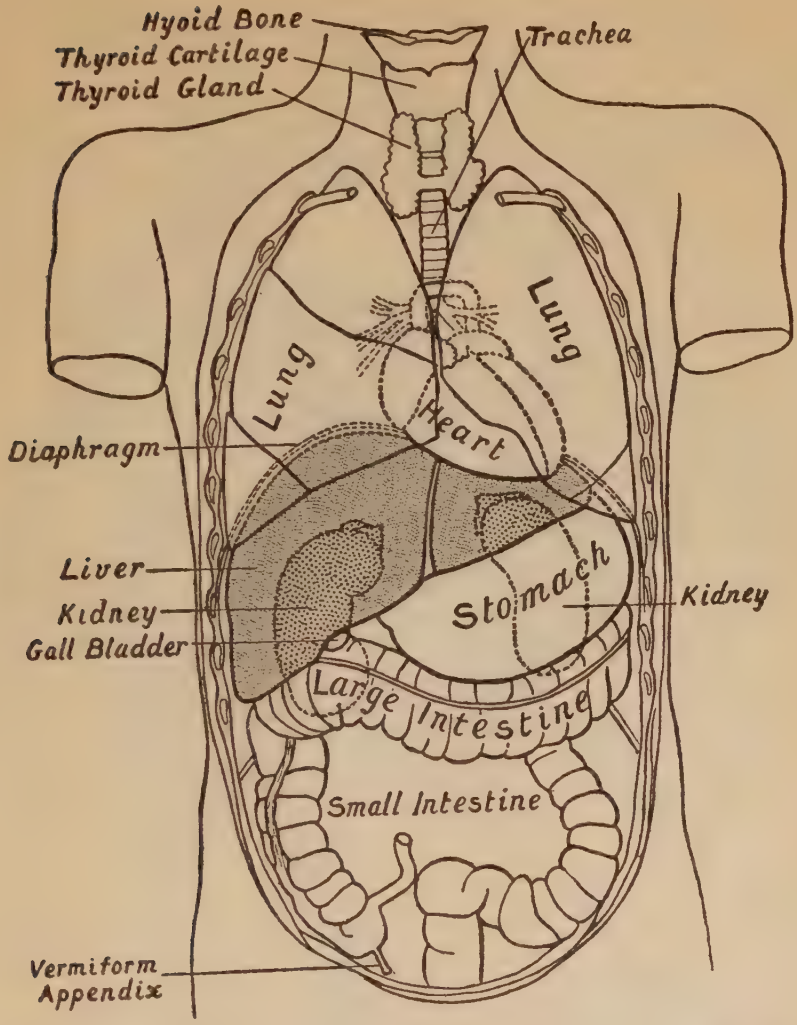


DIAGRAM SHOWING THE RELATIVE POSITIONS OF THE ORGANS OF THE CHEST AND ABDOMEN.

The ribs from the first to the tenth have been cut across in the lateral line. The eleventh and twelfth ribs do not reach sufficiently far forwards to be cut. With the exception of a short segment near its junction with the ascending colon, the small intestine has been removed. The trachea is seen to divide into bronchi beneath the arch of the aorta. The right lung has three, the left two lobes. The kidneys are situate behind all the other viscera. The lower edge of the right lobe of the liver follows closely the line of the ribs and their cartilages. Below the left lobe of the liver the stomach comes to the anterior abdominal wall. The transverse colon (large intestine) comes to the anterior wall below the stomach. Below the latter the wall is in contact chiefly with coils of small intestine. The vermiform appendix rests on the posterior wall. Spleen and pancreas are not shown in the diagram.

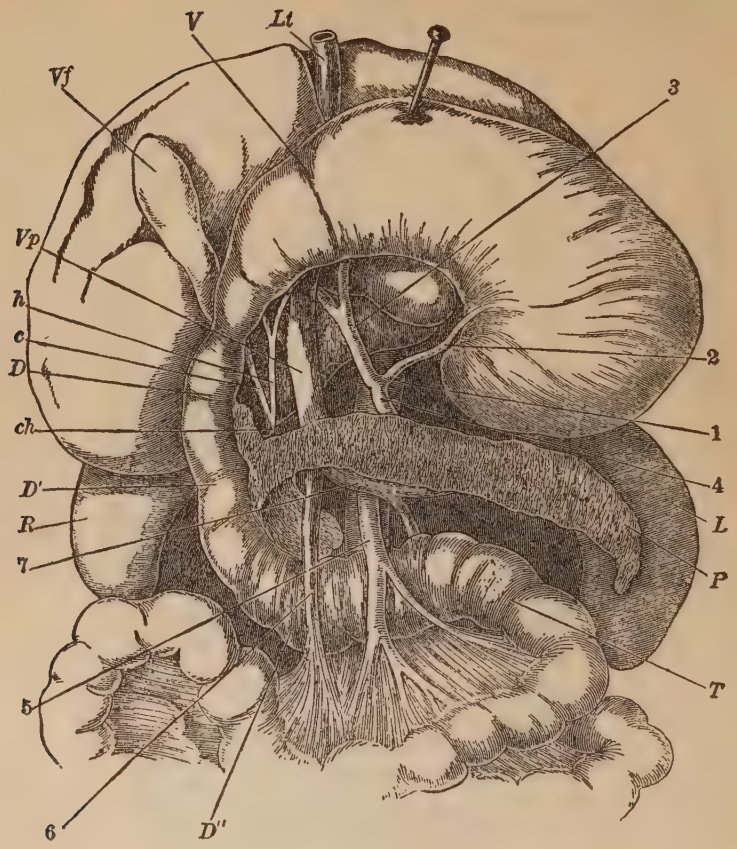


Diagram showing the stomach, pancreas, liver, and duodenum, with part of the rest of the small intestine and the mesentery; the stomach and liver have been turned up so as to expose the pancreas; *V*, stomach; *D*, *D'*. *D'*, duodeunm; *L*, spleen; *P*, pancreas; *R*, right kidney; *T*, jejunum; *Vf*, gall-bladder; *h*, hepatic duct; *c*, cystic duct; *ch*, common bile-duct; 1, aorta; 2, an artery (left coronary) of the stomach; 3, hepatic artery; 4, splenic artery; 5, superior mesenteric artery; 6, superior mesenteric vein; 7, splenic vein; *Vp*, portal vein.

THE NERVOUS SYSTEM

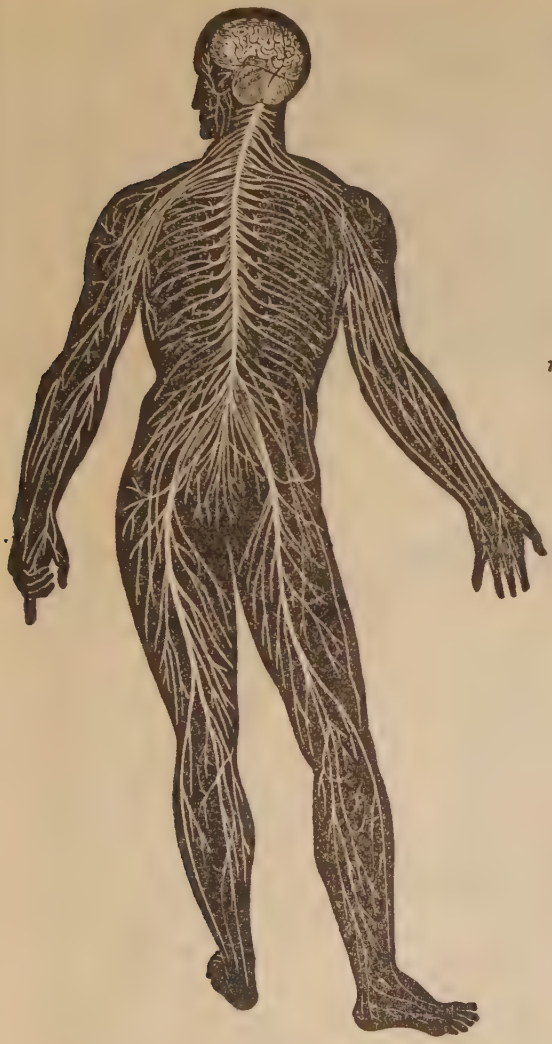


Diagram showing the General Arrangement of the Nervous System.

THE MOUTH, NOSE AND PHARYNX

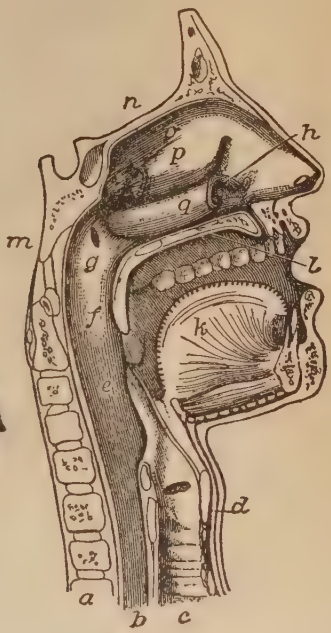


Diagram showing the mouth, nose and pharynx, with the commencement of the gullet and larynx, as exposed by a section, a little to the left of the median plane of the head. *a*, vertebral column; *b*, gullet; *c*, windpipe; *d*, larynx; *e*, epiglottis; *f*, soft palate; *g*, opening of Eustachian tube; *k*, tongue; *l*, hard palate; *m*, the sphenoid bone on the base of the skull; *n*, the fore part of the cranial cavity; *o*, *p*, *q*, the tubinate bones of the outer side of the left nostril chamber.

HORIZONTAL SECTION OF EYEBALL

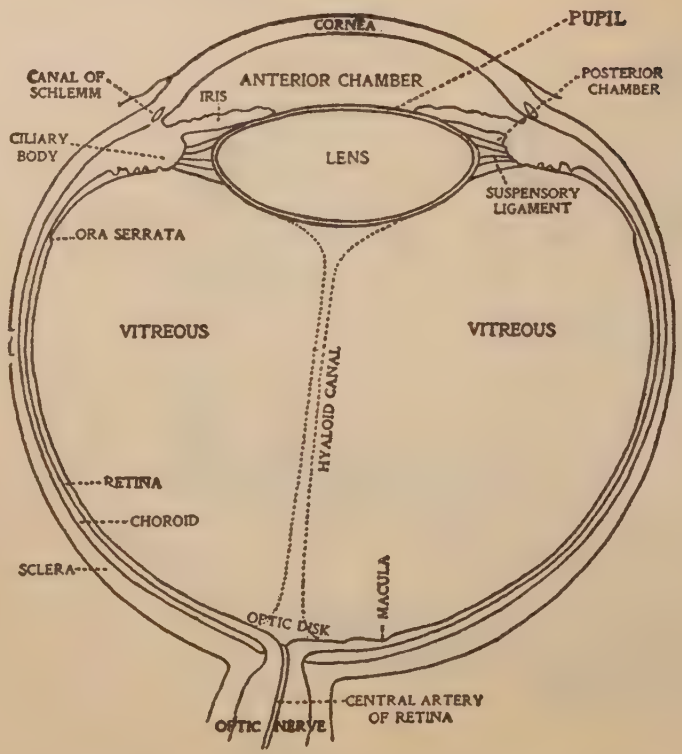


DIAGRAM SHOWING HORIZONTAL SECTION OF THE EYEBALL.

BODY OPENED FROM FRONT

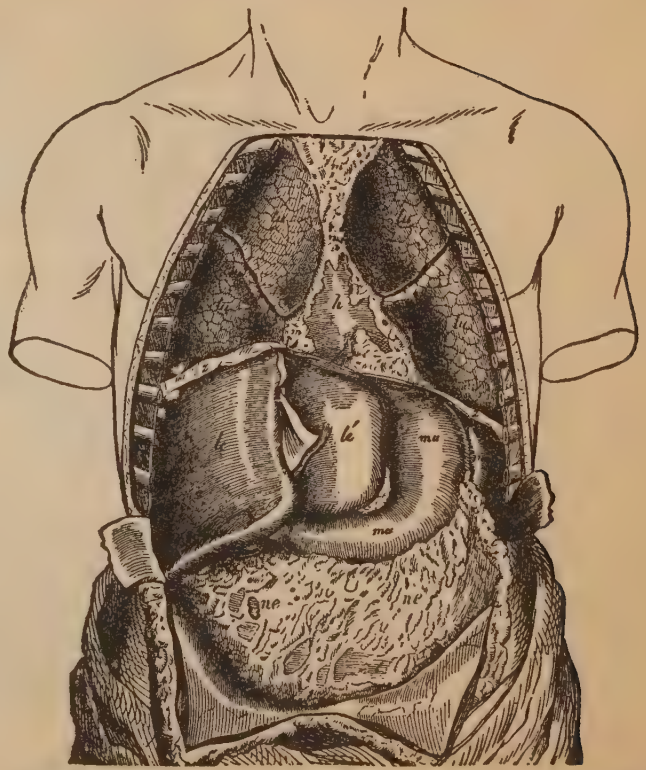


Diagram showing the Body opened from the front to show the contents of its cavities. *lu*, lungs; *h*, heart, partly covered by other things; *le, le'*, right and left liver lobes respectively; *ma*, stomach; *ne*, the great omentum, a membrane containing fat which hangs down from the posterior border of the stomach and covers the intestines.

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